



Digital Common(s)
數碼共同體

Group: DHMO(water)
Members: Ruby Wong
Cherise Tsoi
Yoki Cai
Mentor: Esther Chan
TSL: Patrick So

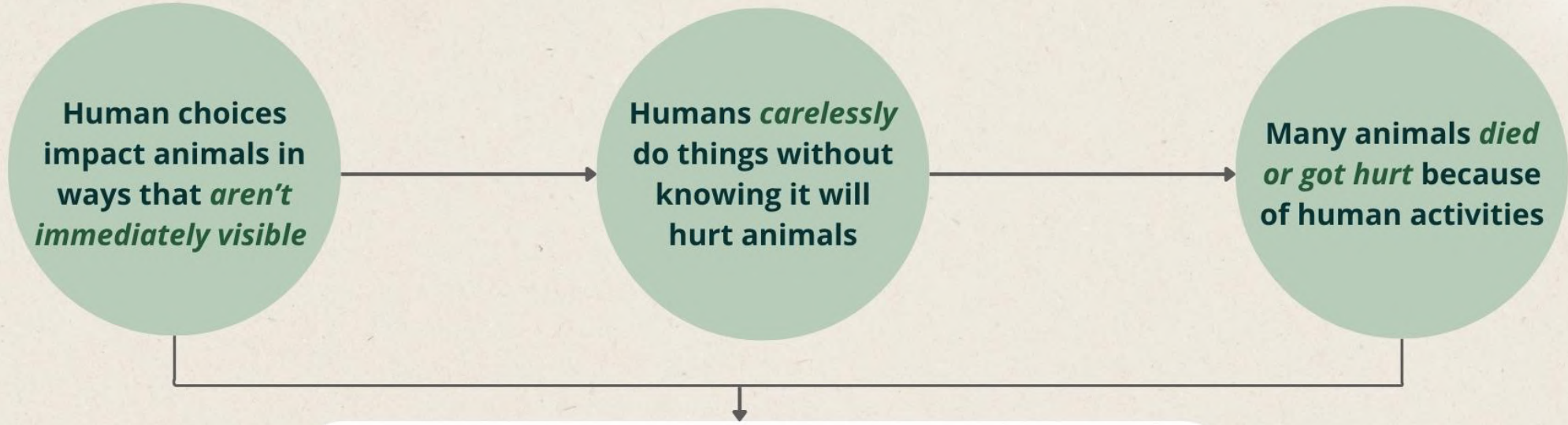


Bridge to a Shared future



Problem

animals hurt by human activities



Animals killed by

Traffic accidents	Predators	Humans
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Design Goal

Target Users:

1. Residents

Reduce traffic accidents caused by animals crossing the road

2. Government

Reduce the maintenance and cleaning costs caused by road animal accidents

3. Animals

Obtain safe habitats and migration channels

Goals:

1. Let animals have a habitat and be safe and worry-free.
2. Let animals cross the road safely.
3. Maintain the balance of the food chain to avoid the outbreak of a single species in the ecosystem due to the lack of natural enemies.



Site Location



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SKINKS(石龍子) prefers a warm, dry and sheltered environment. Nai Chung (泥涌) connects the mangrove wetland and Ma On Shan Country Park which is a must-visit corridor for skinks.

Near by the Nai Chung Bus Terminal, the habitats on both sides are opposite, and the crossing is the most concentrated.



Skinks

Amphibians/Reptiles

- Diurnal animals, warm places
- living in gaps
- Cold-blooded animals → hibernation
- Acting alone
- Diet: It eats small arthropods (spider, ant, cockroach, etc.), and sometimes plant stems and leaves.
- Mostly oviparous



Plestiodon
tetragrammus



Precedent Case Studies



Wildlife Crossing at Tai Lam Tunnel

Minimizes light interference
Produce Amphibians/Reptiles won't be hunt



Biosphere at Treehotel

Creating a light and airy feel making it a perfect habitat for small birds



Ecoduct, Kootwijk

Reduce noise
Light interference:
Build trees around the perimeter to reduce the chances of animals being startled



Domestic birdhouses in Japan

Multi-functional: Decorative birdhouses that double as mailboxes or storage.



Christmas Island Red Crab Access Road

Allow crabs to cross the road safely
There has the nets and gum that the crabs like



British "Sphere House"

The mirrored walls reflect the surrounding environment perfectly blending into the pine forest.

Design Process 1

A brief explanation of our design's evolution.

1.1
Originally the design was centred around [water]



1.3
Conflict between humans and animals



1.2
Observations on urban development:

- Roads, paths, and buildings frequently intersect and disrupt the original habitats and migratory routes of local species.



1.4
Lead us to think about a design to get less of this tension



stage 1
research
&
context

stage 2
:
design vision

stage 3
:
final design

Design process 2

Brief explanation on how our design came to be



2.1
Our vision is to combine
places for the use of
humans and animals



2.2
Roads where animals can
walk above and humans
can go through



2.3
Help animals find places
to feel safe

stage 1
research
&
context

stage 2
:
design vision

stage 3
:
final design



Design process 3

Brief explanation on how our design came to be

Eco bridge /
wildlife overpass



Animal safe house



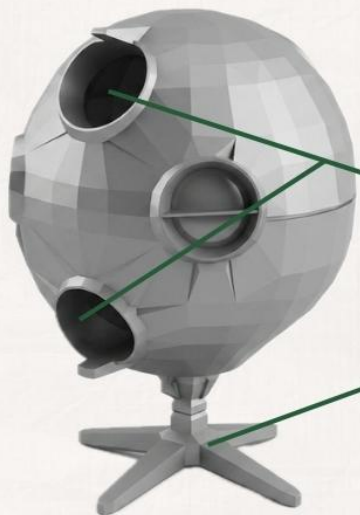
Hope to achieve long-term
ecological balance in the areas

stage 1
research
&
context

stage 2
:
design vision

stage 3
:
final design

Finished product features

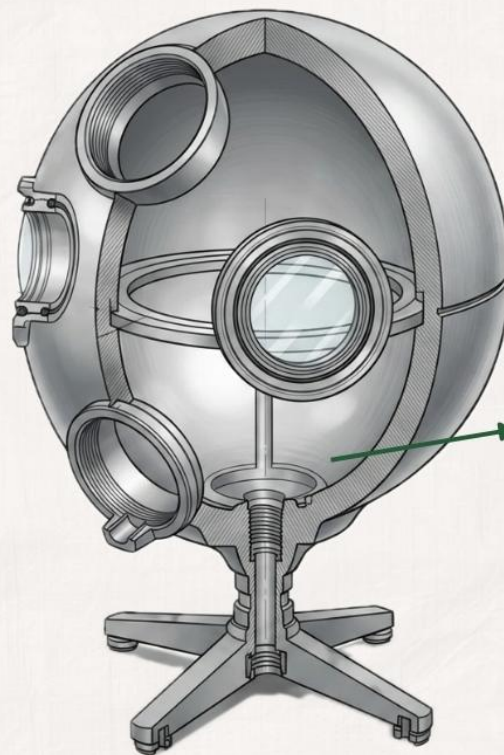


Skink Refuge

The entrance is small—
to facilitate the entry
and exit of the skinks.

Tripod - prevent water
seepage

external
structure



Insects home

Contain soil and was
rather sark. There also
has nest.

internal
structure



Eco bridge usage



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Cars can go through at the bottom
without hurting any animals



Animals can walk
above without
getting hurt

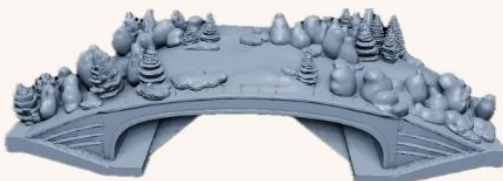


3Dmodel design



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Eco bridge

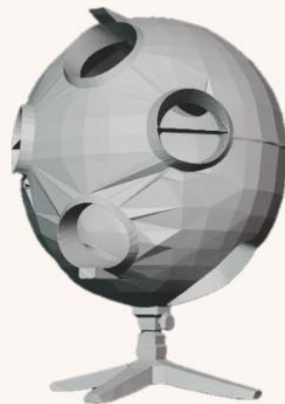


Use Xfigura to gen image of the bridge

Got rid of the background of the image, and learnt about how would be Harding to generate the 3D model if there is a background

Used Hitmen3D to gen the 3D model which we are very proud of

Animal safe-house



Put in the vision of our design in Tencen Hunyuen 3D (腾讯混元3D)



Generated the design you see

Final design



Future Result image



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Reflection

Conflicts between animals and humans often stem from "invisible harm," so design needs to take a holistic view of the ecosystem rather than addressing isolated issues.



limit

- The current design mainly targets small reptiles like skinks, and is not fully compatible with animals of different habits .
- Lack of actual animal behavior observation data makes it difficult to confirm whether animals will willingly use the structure.



next step

- Optimize the modular design so that the eco-bridge and animal safe houses can be quickly adjusted for different species.
- Install infrared cameras and track traps in the field to collect actual animal usage data and verify design effectiveness.





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Meet the team!



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Tsoi Pui Yu Cherise

Form 2 (S K H St. Simon's Lui Ming Choi Secondary School)

through attending these lessons the past couple months, I have learnt so much and met so many hard-working people. My favourite lesson was when we were learning to generate a 3-D model and learning about 3-D printing filaments, it was very fun as I never learned about 3-D printing so being able to learn about it was a great opportunity. Of course the classes were very difficult but if I had the chance to do it all over again, I would take it.



Wong Lam Ruby

Form 2 (S K H St. Simon's Lui Ming Choi Secondary School)

In the future, I hope that the environment and technology are so advanced that they can be perfectly combined. I've learnt that how to do the presentation. I also learnt how to think about the relationship between humans, technology and nature. This project has taught me that progress doesn't mean harming our planet—instead, it means using innovation to protect it. I hope my presentation can inspire others to care more about our environment.



Cai Yu Yin Yoki

Form 4 (S K H St. Simon's Lui Ming Choi Secondary School)

From this activity, I met many different people and gained new perspectives. More importantly, I learned that humans often harm animals unintentionally. Road construction, vehicle traffic, and habitat fragmentation are examples of "invisible harm" we cause without realizing it. This experience deepened my understanding of the relationship between humans and nature. I now believe we must observe more carefully and design solutions that help humans and animals coexist peacefully.



Esther Chan

Registered Architect (Mentor)

As a mentor, guiding the "Eco-Bridge" team has been inspiring. We aren't just designing a crossing; we're architect, a "Design Scientist" solution for human-nature coexistence. By integrating ecological corridors with urban connectivity, we prove that architecture can heal landscapes while serving citizens. It's a blueprint for a sustainable, shared future.



Patrick So

BArch CUHK (TSL)

Glad to work with cheerful young students—they remind me of my own secondary school days. It's hard to balance the timing of giving answers and encouraging them to find their own. I keep reminding myself that our students are strong and capable, so I can lean more into a supportive role. Truly thankful for them for working so hard on the project—I feel proud.



第三屆 青年建築師計劃



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Design Scientist 2026 Incubation Program | The 3rd Annual
Program of The Citizen Architect Initiative

AI 仿生設計營 | 設計成果展

AI+ Biomimicry Design Final Showcase cum Exhibition



這項活動由 Future Ecopreneur Programme 隸屬下的 Eco-pilot Project 資助，該計畫由 香港科技園公司 和 和富社會企業組織，並由 恆生銀行 提供支援。