

unfuse

Haven

Designing a Koala Habitat

<https://competitions.uni.xyz>



Img 1: Koala, a native animal of Australia, sleeping in its habitat

Premise

Earth's ecosystem besides resourcing human needs and habituating many culture ethos, is home to a variety of living beings. Amazon rainforest, lungs of the Earth, itself is home to 10% of the known species in the world. It is ground for a **complex network of interdependence between plants and animal**. Plants provide shelter, food and make oxygen for animals to live. Plants, on the other hand, depend on animals for nutrients, pollination and seed dispersal. The mutually beneficial interactions between plants and animals have been paramount in the generation of Earth's biodiversity

Network structure has important implications for the coexistence and stability of species as well as for the coevolutionary process. These networks can thus be regarded as the **architecture of biodiversity**.

But what happens when the foundation of the structure is slowly being ripped off?

According to the UN, **1 million plant and animal species** are on the verge of **extinction**. One of the species being **Koala**. In 2016, experts estimated that there has been a **24% decline in their population** over the past three generations.



Img 2: "What's horrible is that all these animals are being cooked alive....this is the only place these animals have to live." - [Paul Rosolie](#), Author

Issue

With economic and infrastructure needs taking precedence, land availability becomes a necessity. Despite the growing need to preserve our habitat, **ecosystems are being sacrificed at an increasing rate**. Over that the increasing **change in temperature**, is igniting a series of **forest fire all over the world**. Slash and Burn agriculture, selective logging in some cultures also contribute to the same.

Our **ecosystem is severely fractured**. As of August 2019, 30000 fires were burning in the Amazon. Indonesia is planning an ambitious transportation grid in Borneo, the oldest rainforest in the world. Mumbai's state government is on to cutting 3000 trees for a car shed. While Australia comes to terms with its biggest forest fire, destroying an area seven times the size of Singapore.

The most devastating early fire-season in **Australia**, is raging up the country's eastern coast. From Sydney to Byron Bay, bushfires have led to death of 7 and many properties getting incinerated. As a large piece of biosystem degenerates into fragments, the danger it poses to its native ecosystem and animals, especially Koala is [severe](#).



Img 3: Deforestation in Amazon forest [Source](#)

Brief

Our planet is a complex web of interdependent species, each uniquely contributing to the flourishing of others. But as climate change continues to impact the balance of life, modern day ecosystems are on survival mode.

In Australia - rapid urbanization, agriculture and bushfires have led to catastrophic impact on native species. Koala, a largely adored animal has seen a devastating impact. The Australian foundation estimates that fewer than 10,000 remain, a sharp decline from the 8 million found in 1990.

In a codependent hemisphere of plants and animals, humans should enact the role of a samaritan than that of a disruptor. An element that helps in the ecosystem's rehabilitation. At a macro level, creating reservoirs that habitat plants and animals.

Brief is to design a Koala habitat, a **rescue and rehabilitation centre** that raises **awareness** regarding its **ecological depletion and importance**.

Objectives



Balance

The intervention must be responsive to the environment it is being built in.



Construction

Material usage and construction techniques used must be complacent

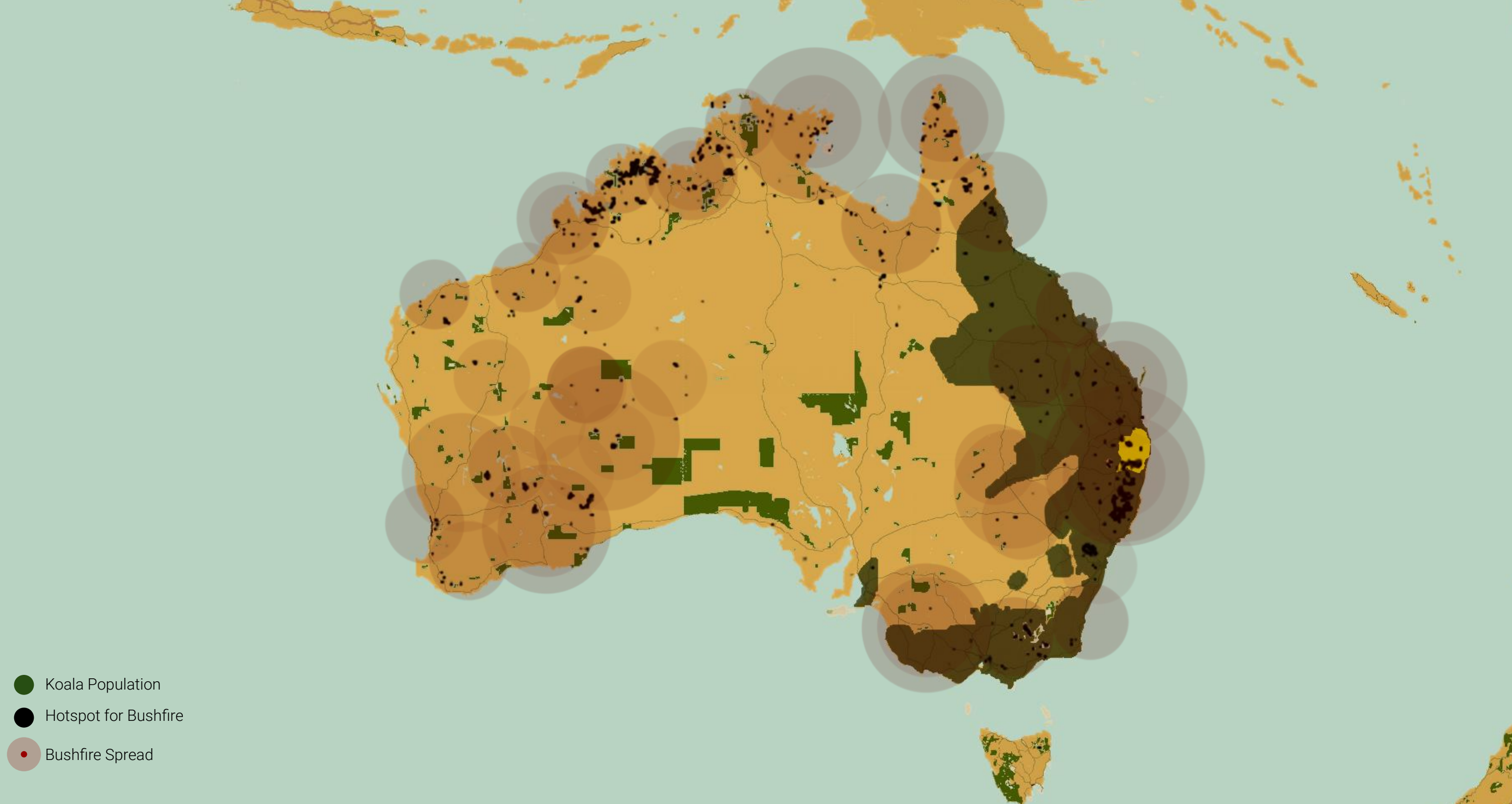


Sensitivity

Interaction between all kinds of living beings, enabling free movement for Koala.

The following objectives can be a point of beginning to conceive this design.

Design aims to be a rehabilitation center where sick and injured Koalas can be brought in. It also intends to educate locals about the value of conserving and protecting the native animal. It aims to create a sense of awareness among tourists besides being a corridor for Koala migration between habitat areas.



Img 4: Hotspots for Bushfire across Australia as of Friday, Dec. 20, 2019 [Source](#)

Australia

Australia is raging with its most **unprecedented early fire season**. Compared to 280,000 hectares burning in past few seasons, this year by December 24' 2019 around 3.41 million hectare had been burnt. Animals, Plants, Houses, Vineyards - everything coming in it's way getting destroyed. Amidst this, one of Australia's most iconic animals has taken center stage in headlines - **The Koala**.

Koalas are considered 'vulnerable to extinction' —and reports indicate that around **30% may have perished**, in the fire-devastated zones since November. Situation is said to further become worse come January and February, as temperatures continue to rise and the drought gets aggravated.



Img 5: Young Koala being treated in Hospital after getting burnt in fire. [Source](#)

Habitat

It has been estimated that of the decline in Koala population in Australia, 53% of decrease took place in the state of Queensland.

Koalas are threatened by land development, food degradation (increased carbon dioxide in the atmosphere has diminished the nutritional quality of eucalyptus leaves), drought, dog attacks, and chlamydia.

Over that the Koala is **dependent on Eucalyptus trees**. Eucalyptus itself are some of the most fire-adapted vegetation that can grow anew in the immediate aftermath of fires. In normal fire conditions, the flames wouldn't typically reach the top of the trees, leaving the koalas relatively unscathed. But the spike in death during the raging forest fire tells another story.

There has been a considerable loss of habitat, and without a suitable habitat Koala's won't be able to survive. In lieu, it becomes important to give them access to a protected undisturbed space where they can live together in safety and in case of an emergency can be brought for rehabilitation.



Img 6: Left - Plan of South East Queensland highlighting Koala reserves as proposed. Right - Site at bottleneck of Tamborine Mountain

Mount Tamborine, Queensland

570,000 hectare of land was proposed to be conserved in South East Queensland for Koala habitat by the state government. The design will act as a threshold for the existing boundaries of the protected area, beyond which no new development would take place. In Tambourine, the reserve besides rehabilitating koalas, will act as a connector between pockets of adjoining reserved spaces. Design can also become means of creating awareness and a local tourist spot, located on main road connecting the state to New South Wales. *Design can be programmed anywhere within the extents of the site.*

Site Area - 30,000 sqm

Coordinates - 27°59'41.8"S 153°10'59.8"E

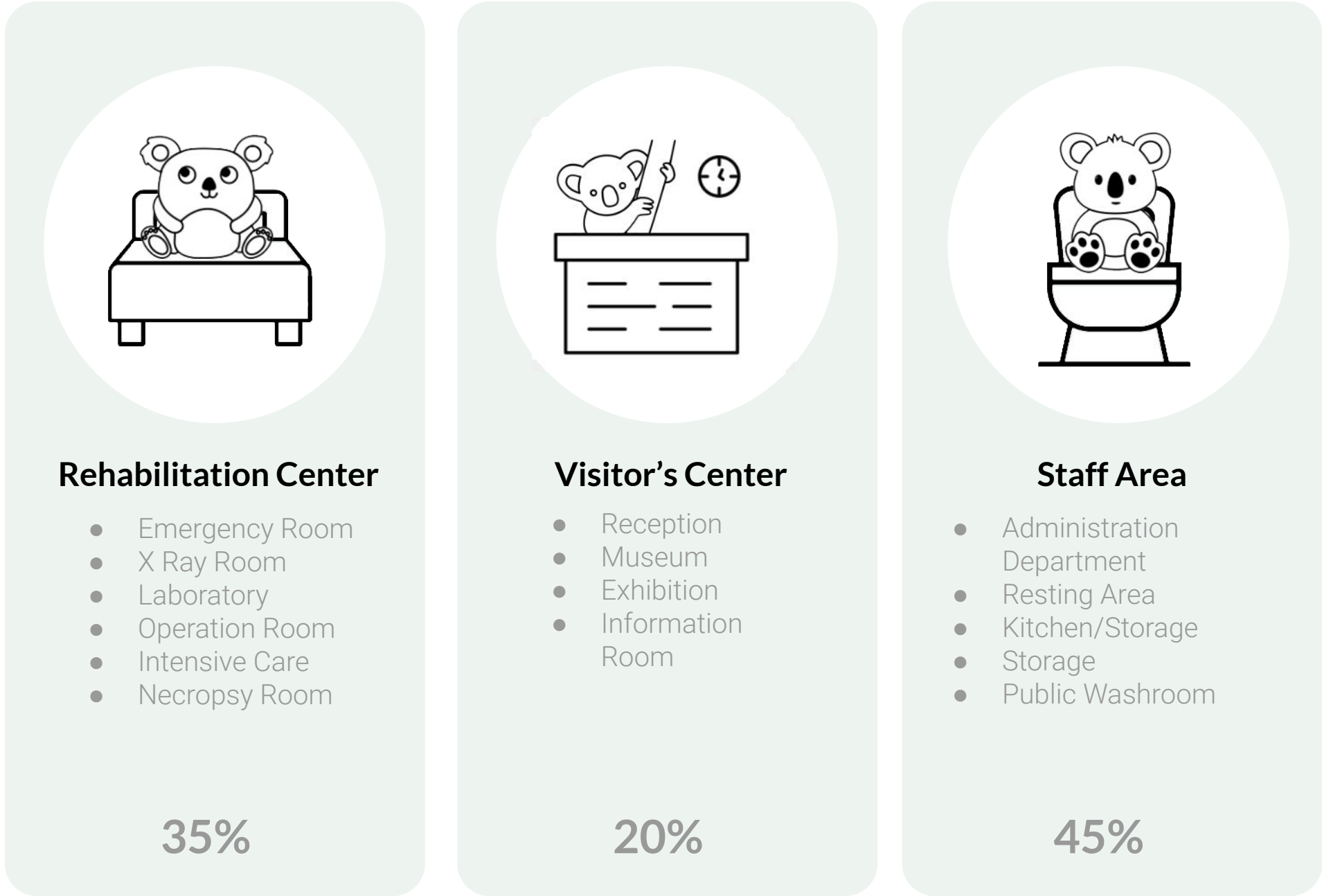
Maximum Ground coverage - 15%

Maximum Height - 9.5 m

Setback - 6m

Build Up Area - 4000 sqm

Programmatic Outline



The program comprises of **indoor and outdoor spaces acting** as quarters for Koala's. Along with staff administrative offices and supporting facilities. There are also interactive exhibition and education spaces to serve the local community and to provide a place for rehabilitation of the animals..The participants are free to add other programmatic facilities and change the percentage depending on their design. Participants don't have to necessary detail out individual spaces.

Submission

You have to deliver an architectural outcome on the following site, based on the given outlines.

- Recommended number of boards/sheets - 6 boards/sheets. – [**2362px x 3544px**] or [**400mm x 600mm in 150 dpi**] in portrait digital format (JPEG). Minimum 3 boards/sheets & no maximum boards/sheet limit.
- Each image should be less than **15MB**
- You can find the preset PSD, AI and INDD template files in the 'additional resources folder' and [here](#).

This additional resources folder contains: FAQ Questions, High Res maps, Area programme and CAD file of the site plan.

Minimum requisites are sheets/boards + Cover image (2000 x 1000 px.) containing:

- Site plan (Compulsory)
 - Key conceptual sections x 1 (Minimum)
 - 3D views x 4
 - Floor plans, images, sketches (if any) can be added to support the entry in the form of additional images.
- Answer 6 FAQ questions in the discussion section as given on the 'additional resources folder'.

-
- + The team limit for this competition is 4 members maximum.
 - + Use exploded views to discuss multi levelled conceptual models better.
 - + Ensure that the final sheets which are submitted do not include your name or any other mark of identification.
 - + Mention sheet number on corner of every sheet.
 - + This is a design ideas challenge only. There is no built commission/realization is associated with the problem
 - + Plagiarism of any idea / form / design / image will be disqualified with a notice.

Registration page here: <https://competitions.uni.xyz/haven/info/about>

Submission Deadline: May 26, 2020

Submission closes this day.

Public Voting Starts: Jun 16, 2020

Voting starts on this date.

Public Voting ends: Jul 11, 2020

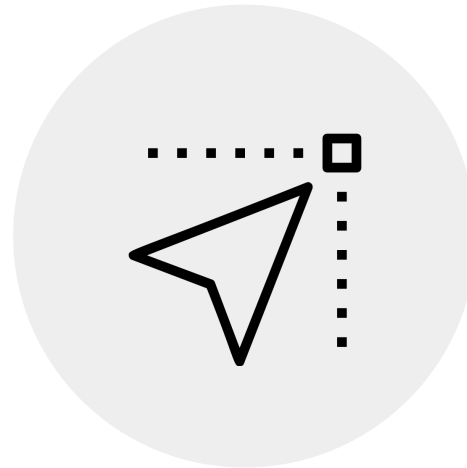
Voting ends on this date.

Result Announcement: Jul 23, 2020

Result day!

Judging Criteria

The entries will be judged by an international jury of the competition on the following criteria:



Presentation

The fundamental to a good entry is a good presentation.



Concept/Idea

Quality of thought and intent in pre-design phase.



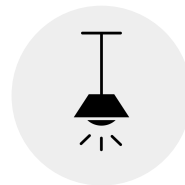
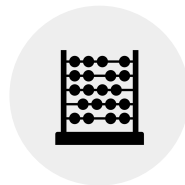
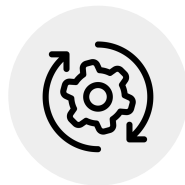
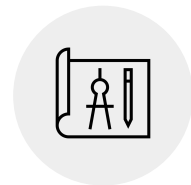
Spaces/Programme

How the spaces are calculated and ordered.



Design Output

The final architectural outcome of the solution.



The judging panel can also add other criterions based on their internal discussions - which will be in line with the problem statement. Participants are advised to fulfil above given criterions first in their design.

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About unfuse



Rewards

Grants of up to a total of **20,000\$** can be won on this challenge. Learn more about the full conditions on the competition page here.

Unfuse serves as a unit block for **Uni** in the field of Architecture. It intends to break the fusion of traditional design barriers and methodologies by making it a platform for experimentation and conceptual exchange of ideas in architecture, urbanism, society, culture and ecology. It is a research initiative dedicated to providing opportunities for designers from all domains to explore ideas that go beyond the boundaries of architectural discipline and enrich our built environment; thereby opening up possibilities for promotion of architectural thought at a global level.

Queries: support@uni.xyz

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