UNYT



# EARTH MADE

Modern earth apartments

https://**competitions**.uni.xyz



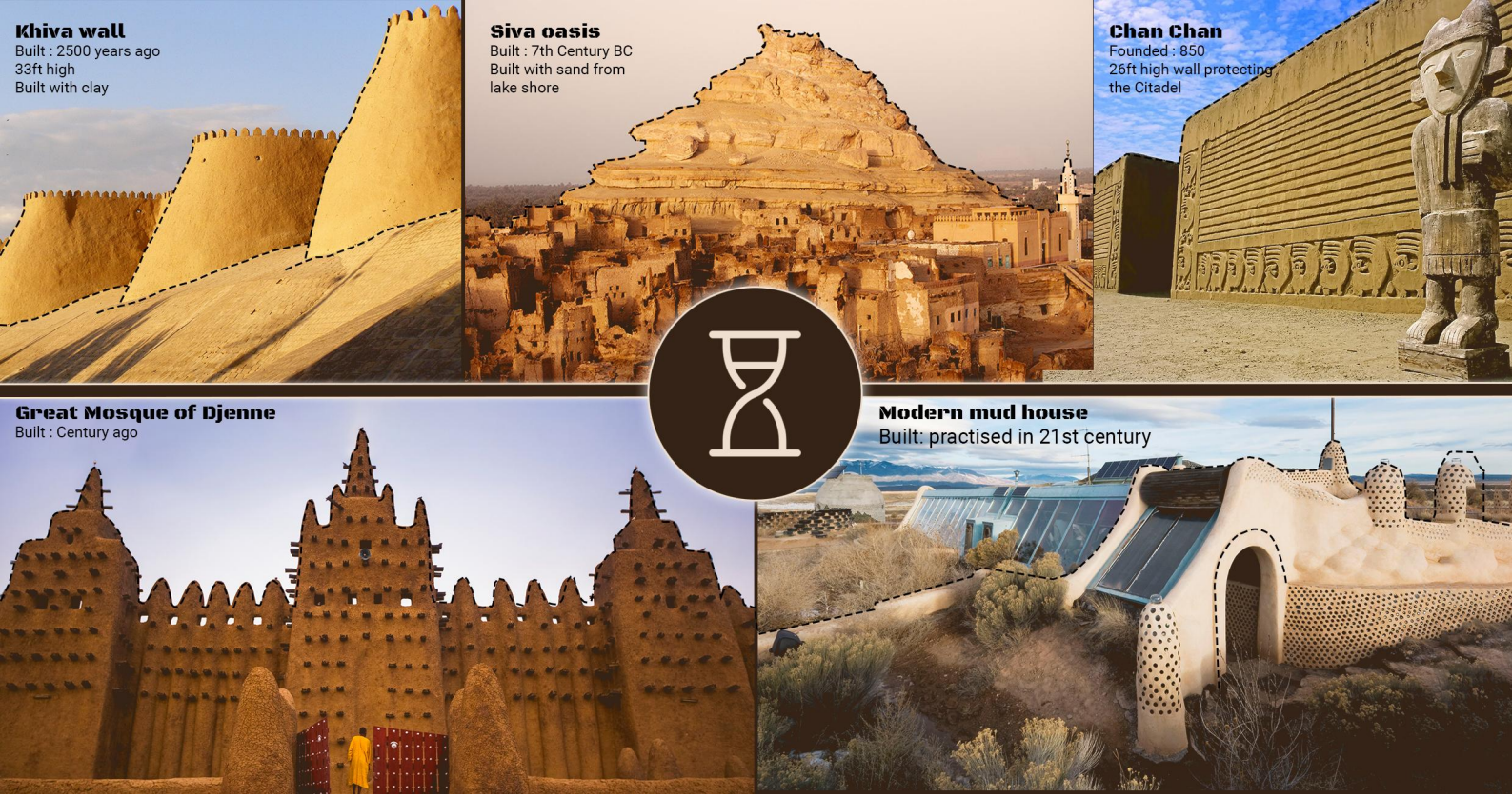
Img 1: Building using rammed earth technique

# Premise

The art of building with earth, is an ancient one that has stood through the test of time. Archaeological evidence can date cities, entirely constructed of earth back over 10,000 years - **City of Bam, Persia, Babylon, Yemen and the Great Wall of China** are the few examples. **Even today, 40% of the world's population continue to live in houses made up of mud. [1]**

A wall made from raw earth serves as a natural air conditioner, making the interiors warm in winters and cool in summers. Earth being a natural material is ecological in nature. Therefore, proving to be **infinitely recyclable, by returning back to soil when demolished.**

History has proved that humans can achieve sustainable living. Earth was used as a raw material with great sensitivity. **Modern fashion of 20th century created a break in the millennia old developments – with earth being exploited and polluted with processed materials.** 21st century is trying to find again the harmonious link between man, nature and spirit.




Img 2: Cities and structures built with earth that stood through the test of time

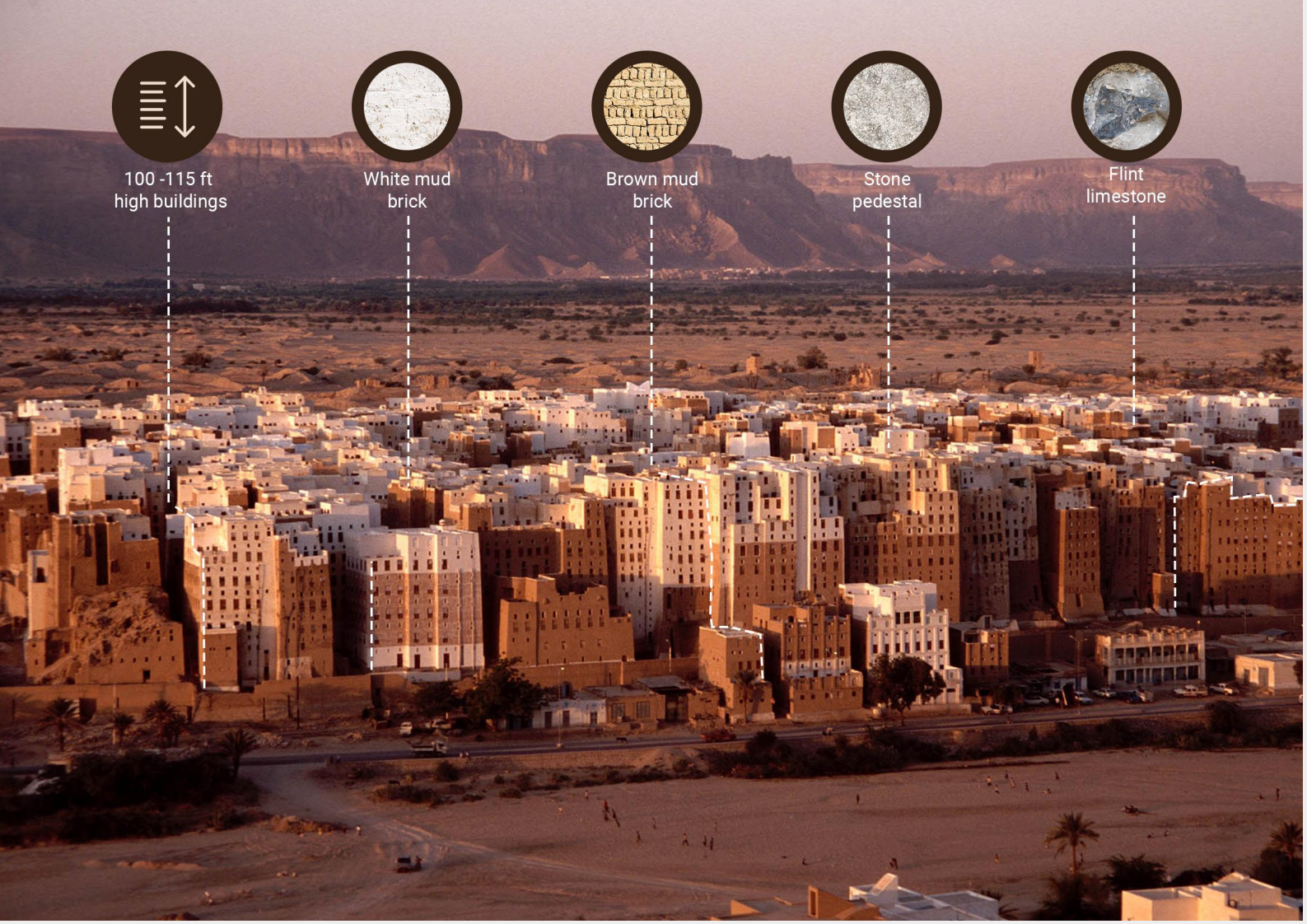
# Prejudice

**The notion, that houses made of mud are 'ephemeral' vs houses made of cement are 'permanent' has been inculcated in our mind since early age.** It has been associated with limited technique, as a last resort when no other building material is available, and particularly vulnerable to seismic events.

On the contrary, **history has repetedly proved that earthen architecture has been adopted by choice.** When Spaniards arrived in Peru, they continued using stone as primary construction material. Soon they discovered that earth was a better construction material to withstand seismic events.

After being largely shunned since the arrival of concrete in the 1950's, Earth is now back in practice. Its **ecological and aesthetic benefits are attracting the attention of contemporary architects and eco builders.** Many are moving towards a more efficient, affordable and artistic way of building mainly **to avoid the perilous environmental effects of concrete.**

Despite the fact that mud has proven to be beneficial in various aspects, why is it not used more often? **Is it the problem of mud itself or is this merely a problem of modern mind?**

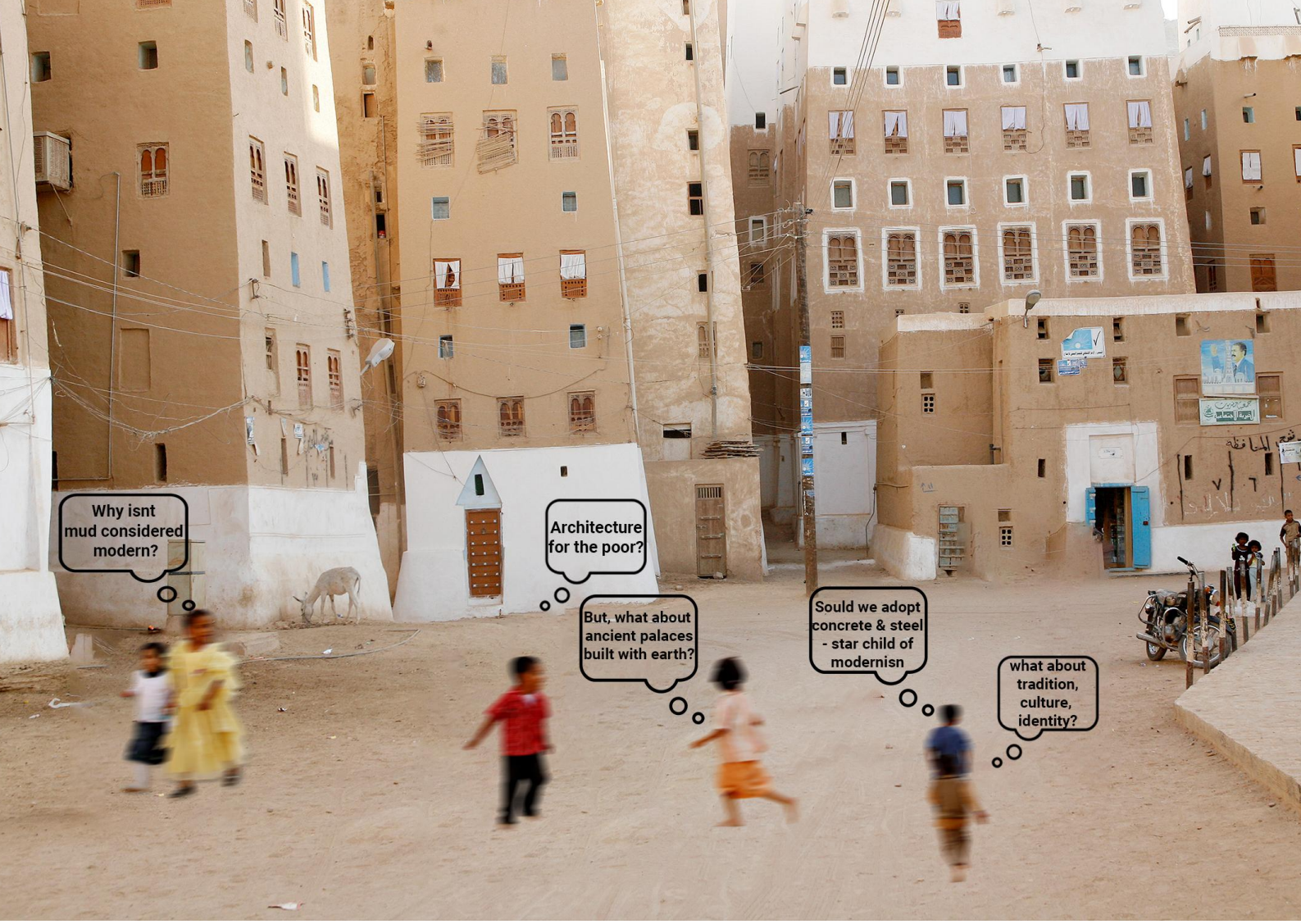



Img 3: Shibam city, Yemen - skyline of mud houses

# Roadblock

Modern construction has made a shift to cement and concrete which is costlier and involves a more tedious process. It is terrifying to see how a single material has taken over landscapes, vernacularity and identity of built forms.

Another major roadblock for practicing earth architecture is the misbelief that houses made of earth can attain maximum height of 1-2 stories. The lack of possible vertical planning leads to over exploitation of land as a resource. However, Shibam, a city in Yemen debunks the above belief. Shibam, also known as the Manhattan of desserts is known as the first city on earth with a vertical masterplan. **The city has buildings as high as 100ft, completely made out of mud.**




Img 4: Communal nodes of shibam, Yemen

# Brief

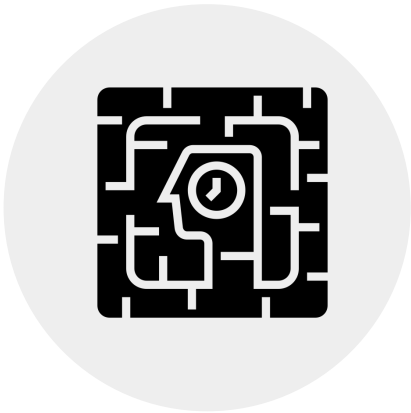
The practice of earth architecture can prove to be a humanitarian step by providing homes for those who can't afford. At the same time a well executed earth architecture design can help in removing the stigma that earth architecture is poor architecture.

**The aim is to design a modern apartment building to accommodate 30-40 families using earth architecture techniques.** The designed structure should be such that it becomes an icon of polished sustainable living that is at par with modern construction materials.

Cement or other processed construction materials can be used as stabilizers but the core material should be belonging to the discipline of earth architecture.



**Contextual**
Should anchorage to site



**Experience**
Should provide modern living experience to the users



**Basic**
Should accommodate the basic needs like natural  light, ventilation etc



**Icon**
Should be an iconic building that sets an example for developed countries.

# Objectives

The apartment building can use any form of earth architecture technique.
The structure should be able to accommodate 30-40 families.



**60%**
Housing units for the inhabitants.

**Residence**
Habitable area, toilets,

| | |
|---|---|
| **Single Occupancy** | **25-30 sqm** |
| **Double Occupancy** | **60-75 sqm** |
| **Family (4-6 people)** | **90-150 sqm** |



**25%**
Congregational spaces provided for recreation

**Community**
Halls, gym, restaurant, general store, community hall



**15%**
Facilities and services for functioning of the building

**Services**
Lift, lobby, storage rooms, electrical room, services shafts etc

# Programmatic Outline

Given guidelines are outlined for the ease of designing. Participants are encouraged to add new functions according to their design requirements. **The housing units will be based on the given carpet areas. The ratio of the single, double aqnd family units are flexible and are to be decided as per the design requirements.**



# Ghana

Ghana is a country in western Africa, situated on the coast of the Gulf of Guinea. Ghana's administrative capital is the coastal city of Accra. In addition to being known for its lush forests, diverse animal life, and miles of sandy beaches along a picturesque coast, Ghana is also celebrated for its rich history. Building with earth has been a traditional construction technique but with concrete and steel leading the wave of modernity, the foundation of a humble mudhouse is quivering.



Img 5: Aerial view of Accra

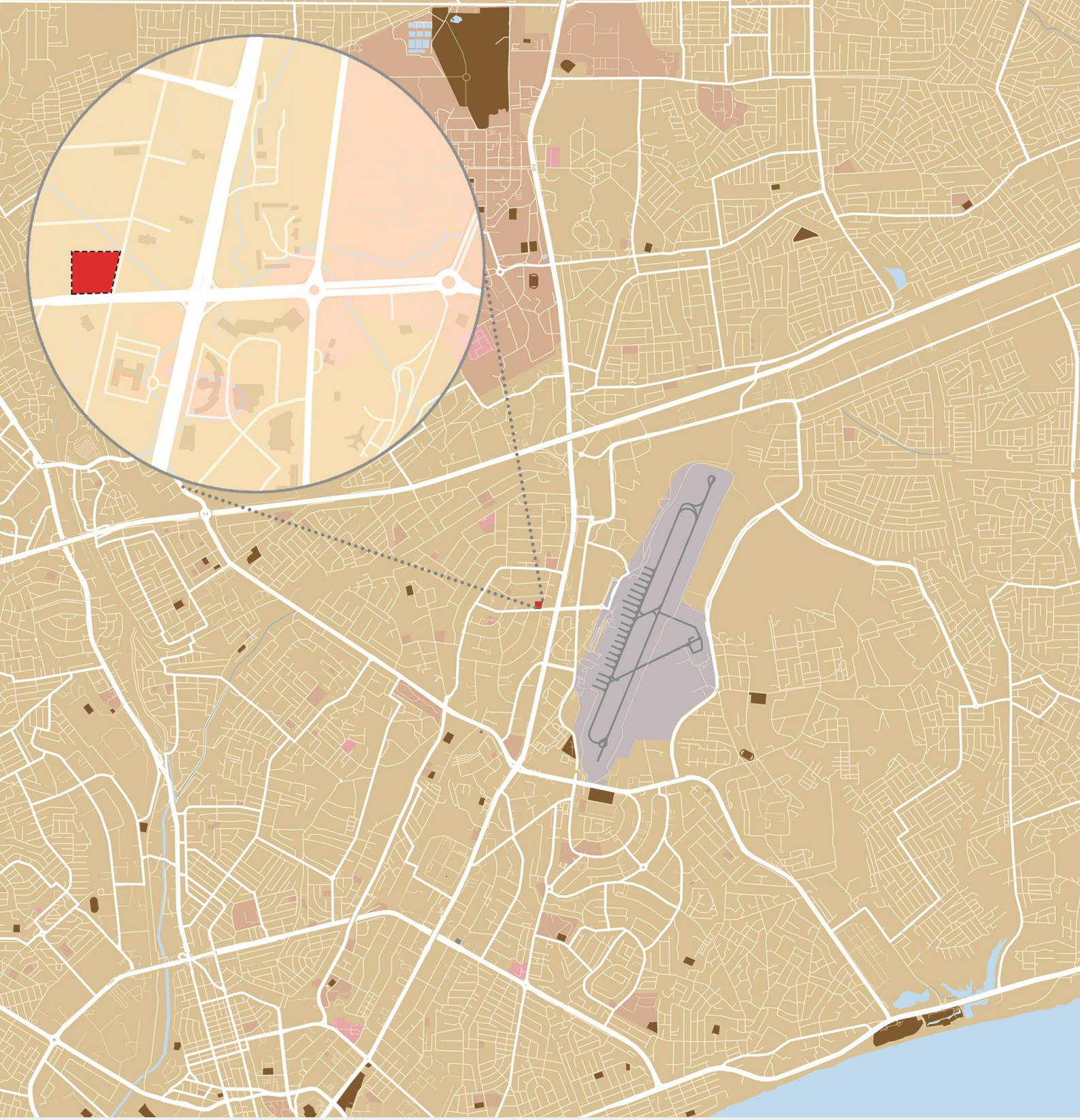
# Accra, Ghana

## Housing challenges in Ghana

Accra, capital city of ghana is considered to be slowly converting into a concrete jungle. Thereby, losing its cultural identity.

There is a need for approximately 2 million houses per year in Ghana, but most of them are concentrated in Accra. However, the cost of construction is so high because of the imported construction items that they become unaffordable.

Using locally available materials would remove the import costs thereby making housing affordable and available to all.



Img 6: Site plan

# Site Plan

The site is located in airport residential area, Accra in the close proximity of hotels, cafes, and other residential apartments. Airport residence is considered one of the most desirable living areas in accra. Ease of accesibilty is one of the benefit of a corner plot.

Ground cover: 30% | Site Area 5600 Sqm |
Coordinates 5°36'21.0"N 0°10'46.0"W | Height restrictions - 32m
Built up -15,000sqm | Set backs of 10m on all 4 sides,

# Guidelines

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

• Recommended number of sheets/presentation images/boards:

**5 (Five)** of size **[ 2362px** x **3544px ]** or **[ 400mm x 600mm** in **150 dpi]** in portrait digital format (**JPEG only**).

**Minimum 3 (Three)** & **No maximum sheet limit.** Each image should be less than **15MB.** (Do not submit PNG format)

**Minimum requisite submission** are sheets/boards + Cover image containing:

• Site plan (Compulsory)
• Key conceptual sections x 1 (Minimum)
• 3D views x 4
• Cover image / Thumbnail of size 2000px x 1000px or larger in aspect ratio 2:1.
• Answering 6 FAQs #
• This is the link for new file sizes, here.

#The FAQ's have to be answered as instructed in the FAQ document in the 'additional resources folder'.

# Deadlines

Discover the competition schedule and deadlines on the competitions page or on this link - Schedule.

# Resources

This competition contains additional resources that contains a set of files useful to complete the competition submission. This folder is made available on your profile dashboard automatically as soon as you register.

**This additional resources folder of this competition contains**: Submission Format files in PSD | AI | InDD, FAQs, High Res maps, theoretical data on types and applications of earth construction and CAD file of the site plan.

# Rules

+ The competitions is open for **students and professionals** from all the disciplines of design.

+ The team limit for this competition is **4 members maximum per team.**

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+ You can register more than one team but they have to be registered separately.

+ Ensure that the final sheets submitted **do not include your name or any other mark of identification**. Your submission is linked to your user account which stands as your identification.

+ This is a design **ideas challenge only.** There is no built commission/realization associated with the problem.

+ In case of publication in yearbook we will reach out separately for selected entries.

# Pro-Tips

+ Use exploded views to discuss multi levelled conceptual models better.

+ Mention sheet number on corner of every sheet.

+ Plagiarism of any idea / form / design / image will be disqualified with a notice.

+ All the sheets or images will be viewed on a digital device. **e.g.** Laptop screen or projector. Uploaded sheets or images will not be physically printed for evaluation. The submission hence should be prepared for digital viewing only.

+ Submit JPEG images only. (PNG will not function)

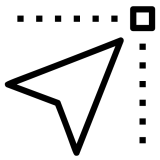
+ Learn



# Awards

Grants of up to a total of **12,000$** can be won on this challenge. Learn more about the full conditions on the competition page here.

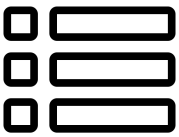
The entries will be judged by an international jury of the competition on the following criterions:



**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 Outcome**
The final architectural outcome of the solution.

# Judging Criteria

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.

About

UNYT

Unyt serves as a part of UNI in the realm of typological discoveries. It intends to break the fusion of traditional design barriers and methodologies by making it a platform for experimentation. It embarks on mobilizing ideas where creators can elementally question the buildings we create. It is a research initiative dedicated to providing opportunities for designers from all domains to explore ideas that go beyond the restrictions of usual architectural discourse.

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EARTH MADE UNYT



# Earth as a building material of past, present and future

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