

MESHONYX

3D VISUALISATION · PROJECT REPORT

Kerala-Style 2BHK Home

From a 2D floor plan to photoreal renders: plans, exteriors by day and night, and interiors

Project SH-001 | Issued 08 Oct 2026 | Blender Cycles · Full-HD interiors | Meshonyx workflow v1.1

PROJECT AT A GLANCE

Small Kerala-style home

45 m²
NET FLOOR AREA

2 + 1
BEDROOMS + BATHROOM

10 ft
WALL HEIGHT

13
FINAL RENDERS

7.0 × 7.85 m
FOOTPRINT

Kerala
STYLE: CLAY TILE · TIMBER

The client material was a single 2D floor-plan image of a compact two-bedroom house. We turned it into a measured CAD drawing, a 3D model and a set of realistic renders, and restyled the house after reference photos of Kerala homes.

Project	Small Kerala-style 2BHK house, Meshonyx project SH-001
Rooms	2 bedrooms, 1 bathroom, open kitchen / dining / living, hall, sit-out (porch)
Net floor area	44.8 m² (482 sq ft) + 4.8 m² sit-out
Built-up (footprint)	about 55 m² (591 sq ft): 7.00 m × 7.85 m plus the bathroom bay
Wall height	10 ft (3.05 m); door and window heads at 7 ft
Style	Kerala: sloping clay-tile roof with deep eaves, round timber pillars, red-oxide sit-out, timber windows with grilles, compound wall, coconut palms
Source	One 2D floor-plan image (scale taken from the labelled 3.0 m bedrooms)



Hero render, day.

DRAWING 01

Floor plan



Ground floor plan, furnished layout

Project SH-001 · Meshonyx · 08 Oct 2026
Scale: drawn from the source plan, approx. 1 : 75 on A4 · North is plan-up (assumed)
Dimensions in metres; walls 0.16 m.

Room schedule

Room	Size	m²
BEDROOM 1	3.00 × 3.00 m	9.0
BEDROOM 2	3.00 × 3.00 m	9.0
BATHROOM	2.43 × 1.19 m	2.9
HALL	1.27 × 1.19 m	1.5
LIVING	2.98 × 3.14 m	9.4
DINING	2.98 × 2.08 m	6.2
KITCHEN	2.98 × 2.30 m	6.9
SIT-OUT	3.33 × 1.43 m	4.8
Total (excl. sit-out)		**44.8**

Door and window schedule

Tag	Type	Location	Width
W1	Window	bedroom1	1.57 m
W2	Window	kitchen N	1.04 m
W3	Window	kitchen E	1.58 m
W4	Window	living E	1.57 m
W5	Window	living S	1.05 m
W6	Window	bedroom2	1.57 m
W7	Window	bathroom	0.63 m
D1	Door	kitchen back	0.85 m
D2	Door	front	0.94 m
D3	Door	bedroom1	0.84 m
D4	Door	bedroom2	0.84 m
D5	Door	bathroom	0.73 m

PROCESS

How it was made

Every step is scripted and repeatable, so a revised plan can be re-run end to end.

1 · Plan → DXF

Walls and openings measured from the plan image; scale from the labelled 3.0 m rooms.

2 · DXF → OBJ

10 ft walls, openings, doors, windows, roof, porch; real-world UVs.

3 · Scene

PBR materials from CC0 textures, HDRI sky, haze, furniture, camera depth of field.

4 · Render

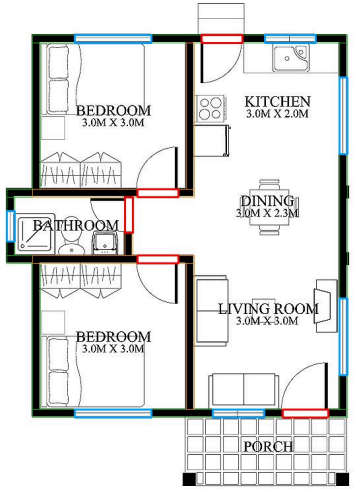
Cycles path tracer, AI denoise, banded and resumable.

5 · QA

Automatic checks, then every image opened and read before sign-off.



Source plan



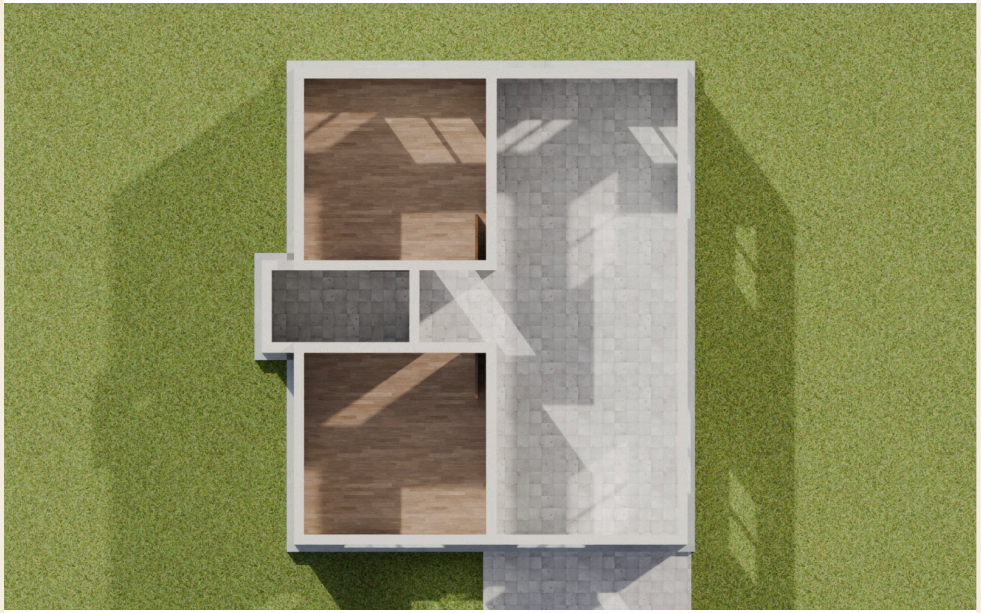
DXF overlaid on the plan to check fit



3D model, roof removed

3D LAYOUT

Plan and cut-away views



Top-down cut-away: bedrooms (wood floor), bathroom, open kitchen / dining / living, sit-out.



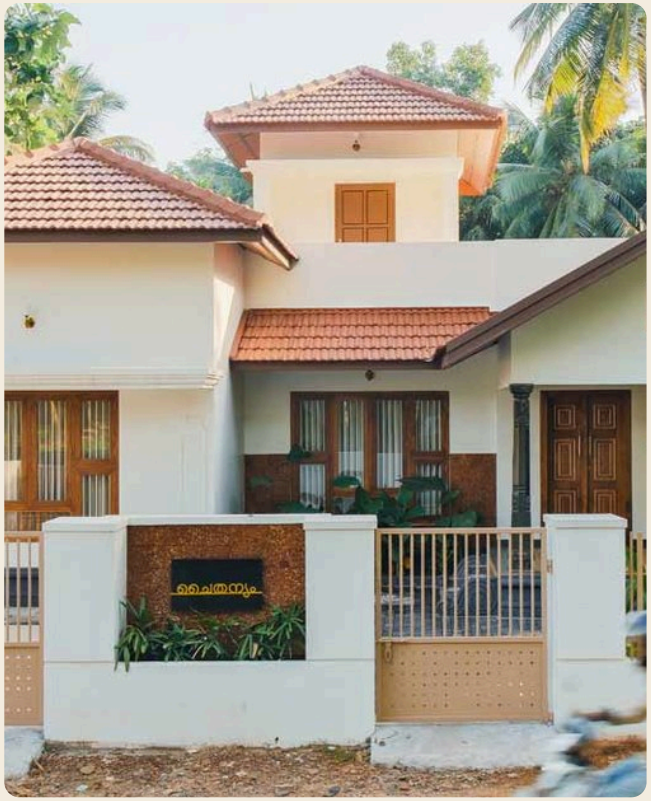
Cut-away view from the front-right.

STYLE

Reference look

Style direction came from Kerala houses published by Onmanorama (photos shown for reference only; © their owners). Features carried over: sloping clay roof with deep eaves, dark timber pillars on a raised sit-out, red-oxide floor, timber windows and a coconut-palm garden.









EXTERIOR · DAY

Morning light, south-east sun

Clay-tile roof, round timber pillars, red-oxide sit-out and coconut-palm garden.



EXTERIOR · NIGHT

Lamps, lit rooms and moonlit palms

Warm porch lamps, glowing windows and garden path lights.

EXTERIOR

Day and night



Day



Night



INTERIOR

Living room

Daylight from the east window; sofa, carved coffee table, armchair and a retro TV corner.

INTERIORS

Inside the house



Dining area. Timber dining table under a ceiling fan; the living room beyond.



Kitchen. Prep table, brass and enamel ware, and the back door to the yard.



Living room from the hall. Looking across the sofa group towards the east window.



Bedroom 1. Teak double bed with maroon quilt; window to the garden.

INTERIORS

Inside the house



Bedroom 2. Single bed, bedside lamp and bookshelf.



Front window and door. The sit-out and garden light enter through the front door and south window.



Kitchen, stove side. Stove under the east window; painted Kerala-style cabinet.



Bedroom 1, wardrobe side. Wardrobe, rocking chair and the door to the hall.

INTERIORS

Inside the house



Bedroom 2, study corner. Desk and stool at the south window.



Bathroom. Toilet, basin and shower with the small window.

PROGRESS

First draft vs final



First draft: faithful to the plan, plain gable roof, white frames, 1K textures.



Final: Kerala detailing, 2K textures, HDRI sun, vegetation, depth of field.

BASE MODEL

Draft views



Front three quarter



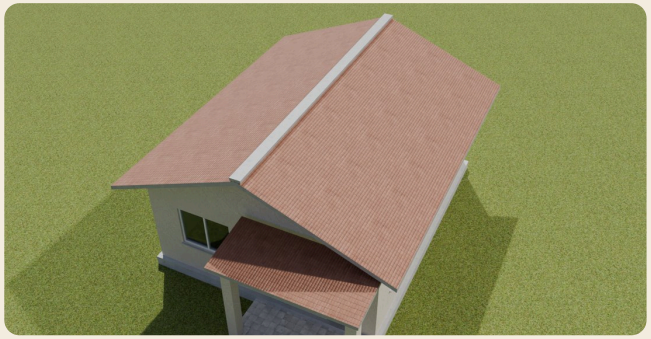
Front eye level



Rear three quarter



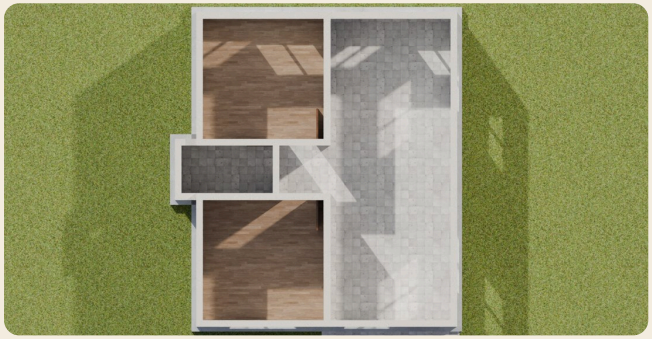
East side



Aerial



West side



Cutaway plan top



Cutaway dollhouse



Interior living

MATERIALS

Materials and environment



Texture library (CC0: ambientCG, Poly Haven).



HDRI skies considered; the day shot uses *meadow_2*, the night shot *moonlit_golf* (Poly Haven, CC0). Furniture and plants: Poly Haven CC0 models.

PROJECT DETAILS

Specification and deliverables

Assumptions (not in the plan image)

- Wall thickness 0.16 m; wall height 10 ft; door / window head 7 ft; sills 0.9–1.5 m.
- Roof: 22° gable with 0.9 m eaves, lean-to sit-out roof; plinth 0.3 m.
- Interior doors modelled open as drawn; furniture and fixtures are representative, not specified by the client.
- Areas are scaled from the plan and approximate.

Render settings

- Blender 5.2, Cycles on CPU, adaptive sampling, OpenImageDenoise, AgX view transform.
- Light: HDRI sun and sky, bounded haze volume, depth of field; interiors add hidden fill lights.

Delivered files

- DXF plan · OBJ/MTL models · .blend scenes · PNG renders · this PDF · social-media set (posts, stories, reel).

Render index

Render	File	Size (px)
Day hero	01_front_three_quarter_kerala_4k.png	3840 × 2160
Night hero	01_front_three_quarter_kerala_night_1440p.png	2560 × 1440
Interior: Living room	09_living_a_1080p.png	1920 × 1080
Interior: Dining area	09_dining_1080p.png	1920 × 1080
Interior: Kitchen	09_kitchen_a_1080p.png	1920 × 1080
Interior: Living room from the hall	09_living_b_1080p.png	1920 × 1080
Interior: Bedroom 1	09_bedroom1_a_1080p.png	1920 × 1080
Interior: Bedroom 2	09_bedroom2_a_1080p.png	1920 × 1080
Interior: Front window and door	09_living_c_1080p.png	1920 × 1080
Interior: Kitchen, stove side	09_kitchen_b_1080p.png	1920 × 1080
Interior: Bedroom 1, wardrobe side	09_bedroom1_b_1080p.png	1920 × 1080
Interior: Bedroom 2, study corner	09_bedroom2_b_1080p.png	1920 × 1080
Interior: Bathroom	09_bathroom_1080p.png	1920 × 1080

Automatic QA

Image	Status
01_front_three_quarter_kerala_4k.png	WARN
01_front_three_quarter_kerala_night_1440p.png	WARN
09_bathroom_1080p.png	WARN
09_bedroom1_a_1080p.png	WARN