Facade Mods Guide

The Treasurenauts · make your own building textures

How the game dresses its 3D buildings in pixel-art facades, and how to make, pack, load and share a mod that brings your own: the picture layout, the measurements in `facades.json`, how the game stacks and tiles them on real buildings, and what the game checks.



The example textures in this guide and in the game (Brownstone, Limestone, Art Deco, Mediterranean, Shop Terrace) are from **Pixel Facades – 100 Building Textures** by **najjar320**: najjar320.itch.io/pixel-facades-100-building-textures

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1. A mod in one minute

A mod is a **zip file** with one `facades.json` and three pictures for each facade. Nothing else in it is used and nothing in it is ever run.

1. Draw a facade as three pictures of the same width: **top** (roof edge + last floor), **floors** (whole floors that repeat) and **ground** (the ground floor). Name them `facade_<name>_top.png`, `_floors.png`, `_ground.png`.
2. Write their sizes in pixels into `facades.json` (section 3).
3. Zip the json and the pictures together (section 8).
4. In the game: **Map menu › User Mod › Choose zip file…** Your facades appear on the 3D buildings at once and the mod is kept in your browser (section 9).
5. To share it, put the zip online where other sites may download it and give people the link for **Mod Link…** (section 10).

> **Start from the demo mod:** `demo-mod.zip` is a complete, working mod: three facades, a `facades.json` that uses every option, and a `README.txt` listing them. Load it with User Mod to see it, then change the pictures and the numbers. (The game's own facades are next to this guide too: `facades.json` and the `facade_*_*.png` pictures.)

The game's own facades

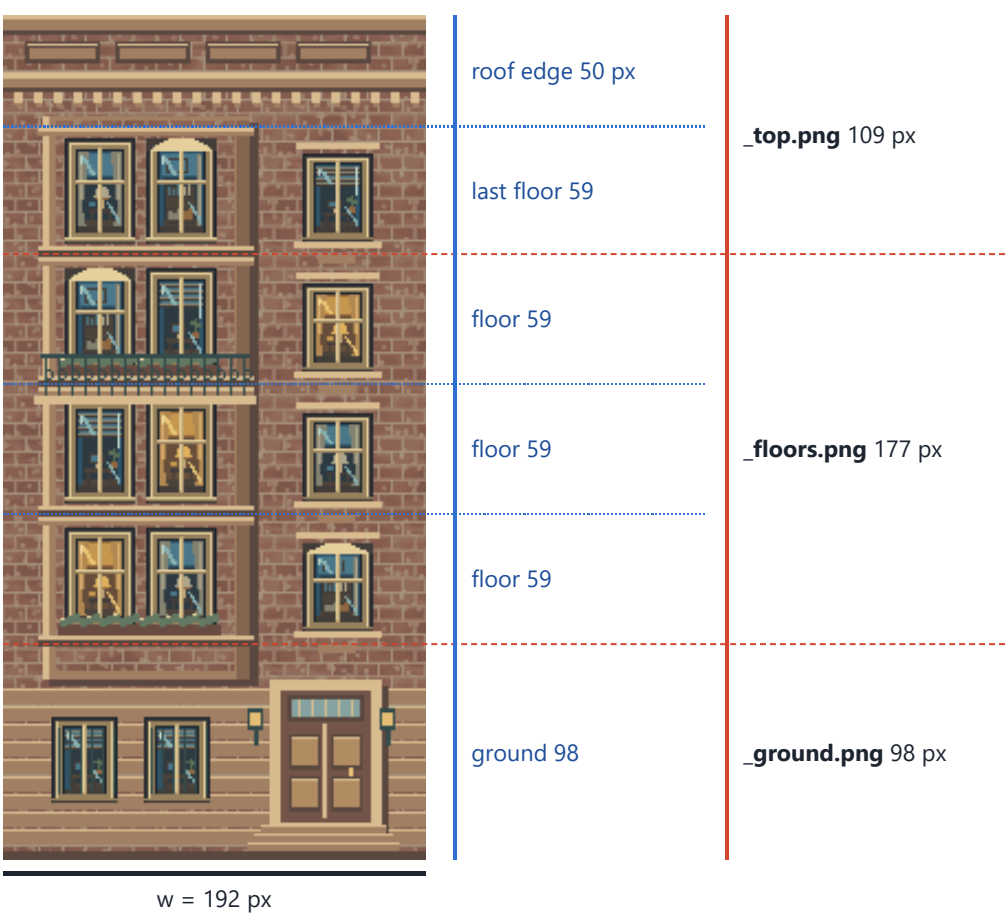


`brownstone` `limestone` `artdeco` `mediterranean` `shopterrace`

Textures by najjar320 — Pixel Facades – 100 Building Textures.

2. The three pictures of a facade

Each facade is cut into three horizontal parts. All three have the **same width** (`w`) and the same scale: every floor is exactly `floorRows` pixels high.





`facade_brownstone_top.png`
192 × 109 px



`facade_brownstone_floors.png`
192 × 177 px



`facade_brownstone_ground.png`
192 × 98 px

Brownstone, drawn at 1.1×. Red: where the three files are cut. Blue: the floors inside them. Right: the three files the game reads. The whole picture (`facade_brownstone.png`, 192×384) is only a preview.

Picture	What it holds	How it is used
`_top`	The **roof edge** (cornice, parapet) at its top, and under it the **last floor** of the building: exactly `floorRows` pixels. Its height is `top` = roof edge + `floorRows`.	Once, at the top of every wall. A low building gets only its roof-edge part.
`_floors`	**Whole floors**, usually 3 (`floorsInPart`), each `floorRows` high, so `floors` = `floorsInPart` × `floorRows`.	Between top and ground, as many floors as the building needs; it repeats upwards for tall buildings.
`_ground`	The **ground floor**: doors, shop fronts, steps, base. Any height (`ground`).	Once, at the foot of every wall.

> **Edges must join.** The pictures are repeated side by side along a wall, so the left edge of each picture has to continue its right edge. The floors picture also repeats upwards, so its top edge has to continue its bottom edge. And where the parts meet (top over floors, floors over ground) the brickwork should line up.

3. facades.json

One file for the whole mod. Sizes are in **pixels of your pictures**; the game turns them into metres from the floor height.

```
{
  "$schema": "https://www.thetreasurenauts.com/mods/facades.schema.json",
  "title": "Old Town",          // optional - the name shown in the game
  "map": "roadmap",             // optional - "roadmap" (default) or "satellite"
  "roofs": "flat",              // optional - "flat" (default) or "photo" (satellite only)
  "roofColor": "#3b3e44",       // optional - flat roof colour (satellite only)
  "floorMetres": 3.1,           // optional - how high one floor is drawn (default 3.1)
  "facades": [
    { "name": "brownstone", "w": 192, "top": 109, "floors": 177, "ground": 98,
      "floorRows": 59, "floorsInPart": 3 },
    { "name": "limestone", "w": 182, "top": 82, "floors": 174, "ground": 72,
      "floorRows": 58, "floorsInPart": 3 }
  ]
}
```

The comments above are only for this guide: JSON itself does not allow comments, so leave them out of your file. Fields the game does not know (like the `note` and `metres` in the game's own file) are ignored, so you can keep notes in them.

> **Help in your editor.** With the `"$schema"` line above, code editors such as VS Code read `facades.schema.json`: they show what each option does when you point at it, offer the options as you type, and underline a wrong value before you ever zip the mod. The game ignores the line.

The mod

Field	Value	Meaning
`$schema`	the schema's address	Optional. Help for code editors (see above); the game ignores it.
`facades`	list, 1 to 24	**Required.** The facades of the mod. Each building gets one of them, picked by where it stands, so it is always the same one and they are spread evenly.
`title`	text, up to 60	Shown in the User Mod popup. Without it the zip's file name is used.
`map`	`"roadmap"` / `"satellite"`	The map the mod is shown on. Default roadmap.
`roofs`	`"flat"` / `"photo"`	On the satellite map: one colour, or the satellite photo of the real roof. Default flat. (On the roadmap roofs are always the game's dark grey.)
`roofColor`	`"#rrggbb"`	The flat roof colour on the satellite map. Default `#3b3e44`.
`floorMetres`	2 to 6	How many metres one floor (`floorRows` pixels) is on the buildings. Default 3.1. All facades of the mod share it.

Each facade

Field	Value	Meaning
`name`	letters, digits, `_` `-`; up to 40	**Required.** Names the pictures: `facade_<name>_top.png` etc. Unique in the mod.
`w`	1 to 4096 px	**Required.** The width of all three pictures.
`top`	1 to 4096 px	**Required.** Height of `_top`: roof edge + one floor. Must be more than `floorRows`.
`floors`	1 to 4096 px	**Required.** Height of `_floors`: `floorsInPart` × `floorRows`.
`ground`	1 to 4096 px	**Required.** Height of `_ground`.
`floorRows`	1 to 4096 px	**Required.** The height of one floor in your pictures. It sets the scale: `floorRows` pixels = `floorMetres` metres.
`floorsInPart`	1 to 12	How many floors the `_floors` picture holds. Default 3.

> Write the **real sizes** of your pictures. If a number does not match its picture, the game still draws it, but stretched: a wrong `floors` or `floorsInPart` makes floors come out cut in the wrong place.

4. How the game builds a wall

The game takes the real buildings of the map (their outline and height) and lays your pictures on every outside wall, 6 cm in front of it. Up the wall, from the bottom:

1. the **ground floor** (`_ground`),
2. as many **floors** as fit, taken from `_floors` from its top down and repeated for tall buildings,
3. the **last floor and the roof edge** (`_top`).

The number of floors is the one that fits the building's height best; the whole stack is then stretched or squeezed a little to the exact height. Nothing is cut in the middle of a floor.

Building height (wall)	What it gets
2.6 m or lower	no facade (sheds, walls, kiosks)
too low for ground floor + roof edge	only the ground floor, stretched to the height (or nothing, if it would be squeezed below 72 %)
about ground floor + roof edge	the ground floor and the roof-edge part of `_top`
taller	ground floor + floors + top, as many floors as fit

The same Brownstone on buildings of different heights, drawn exactly as the game does (here 8 m wide walls):



4.2 m high
the ground floor alone
82 % high

8 m high
ground floor + roof edge
+3 %

13 m high
ground + 1 floor + top
−7 %

19 m high
ground + 3 floors + top
−6 %

26 m high
ground + 5 floors + top
−1 %

Brownstone: 19.0 px per metre (59 px = 3.1 m); ground floor 5.15 m, roof edge 2.63 m, each floor 3.1 m. The percentage is how much the stack is stretched (+) or squeezed (−) to the building's height.

> So a good `_ground` reads well when stretched a little, and a good `_top` works with and without the floor under its roof edge.

5. Across a wall: tiling

Along a wall the pictures are laid side by side at **their own size** (`w` pixels = `w / floorRows × floorMetres` metres; about 10 m for the game's facades). They are **not** stretched to fit a wall, with one exception:

- When the wall is within **12 %** of a whole number of pictures, the pictures are fitted to it exactly.
- Otherwise there are whole pictures in the middle and the **same cut piece at both ends**, so the wall looks centred.
- A wall narrower than one picture shows the **middle** of the picture.
- Straight runs of a building's outline (edges that turn less than about 10°) are tiled as one wall, so a gently curved street front stays continuous.



2 pictures wide
ground + 2 floors + top
−3 %



2.08 pictures: fitted
ground + 2 floors + top
−3 %



2.5 pictures: cut ends
ground + 2 floors + top
−3 %



0.62: the middle
ground + 2 floors + top
−3 %

Limestone on 14 m high walls. 2.08 pictures: fitted: 2 whole tiles, squeezed 3.8 %; 2.5 pictures: 2 whole tiles, the same cut piece at both ends; 0.62 pictures: narrower than a tile: the middle of one.

> Because the cut pieces come from both edges of your picture, put something sensible at the edges: a pilaster, a corner stone, or plain wall. A window cut in half at the corner of a building looks wrong.

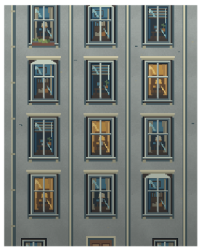
Sizes of the game's facades

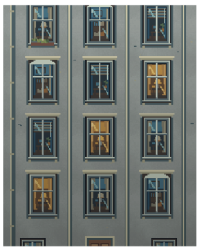
name	w	top	floors	ground	floorRows	floorsInPart	px / m	one picture	ground floor	roof edge
`brownstone`	192	109	177	98	59	3	19.0	10.09 m	5.15 m	2.63 m
`limestone`	182	82	174	72	58	3	18.7	9.73 m	3.85 m	1.28 m
`artdeco`	210	84	186	74	62	3	20.0	10.50 m	3.70 m	1.10 m
`mediterranean`	224	83	192	77	64	3	20.6	10.85 m	3.73 m	0.92 m
`shopterrace`	196	84	192	76	64	3	20.6	9.49 m	3.68 m	0.97 m

With `floorMetres` 3.1. Keep your facades roughly 8 to 12 m wide and at the same pixel density as each other, so neighbouring buildings look alike in detail.

6. Light and shade

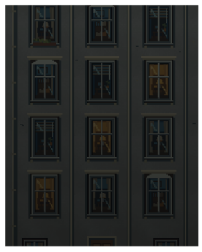
The game shades the facades itself, so **draw your pictures evenly lit**, without a strong shadow of their own. Each wall is darkened by the way it faces: the sun stands in the south, a little to the west.


facing the sun (south-south-west)
× 1


south
× 0.94


west
× 0.72


east
× 0.44


north
× 0.31

On top of that every wall is a little darker towards the ground: 70 % at its foot, full brightness at its top (the dark band at the bottom of each sample). Pictures are drawn with sharp pixels up close and smoothly far away, so pixel art stays crisp.

> Test your colours on the darkest side: a facade that is fine facing the sun can turn muddy on north walls at 31 %. Mid-tone walls with clear, light window frames read best everywhere.

7. Maps and roofs

The game's own texture modes, in the Map menu, show the three combinations a mod can choose:

Map menu	Mod settings	What you see
Textured	`"map": "roadmap"` (default)	The road map; facades on the walls; flat dark roofs.
Fully Textured	`"map": "satellite"`	The satellite photo as the ground; facades; flat roofs in `roofColor`.
Realistic	`"map": "satellite", "roofs": "photo"`	The satellite photo; facades; each roof shows the photo of the real roof above it.

Facades are on the **3D** map only; choosing a texture mode on the 2D map switches it to 3D. The map menu has one choice ticked at a time: Roadmap, Satellite, Night, or one of the texture modes. Picking Roadmap, Satellite or Night turns the textures off.

8. Packing the zip

Put `facades.json` and the pictures at the **top of the zip**:

```
old-town.zip
  ├─ facades.json
  ├─ facade_brownstone_top.png
  ├─ facade_brownstone_floors.png
  ├─ facade_brownstone_ground.png
  ├─ facade_limestone_top.png
  ├─ facade_limestone_floors.png
  └─ facade_limestone_ground.png
```

or all of them in **one folder** inside it:

```
old-town.zip
  └─ old-town/
     ├─ facades.json
     ├─ facade_brownstone_top.png
     └─ ...
```

Zipping a folder with Windows "Send to › Compressed folder" or macOS "Compress" gives this layout. The pictures must be in the same folder as `facades.json`.

- Picture names: `facade_<name>_top`, `_floors`, `_ground`, with `.png`, `.jpg` / `.jpeg` or `.webp`. Upper or lower case does not matter.
- Other files (a preview, a readme, your source files) may be in the zip; they are ignored. Hidden files and macOS `__MACOSX` folders are skipped.
- PNG is best for pixel art: no blur, transparency kept. Transparent pixels show the building's grey wall behind them.

Limits

What	Limit
the zip	25 MB, 400 files
facades in a mod	24
one picture	8 MB, 4096 × 4096 px
facades.json	200 kB

> Small is fast: the game's own five facades are about 80 kB together. Pictures go to the graphics card of every player's phone, so a mod of 5–10 facades at around 200 px wide loads instantly and keeps the game smooth.

9. Loading a mod in the game

From your device: User Mod

Map menu › **User Mod** › **Choose zip file…** The mod is checked, shown at once, and **kept in this browser**: next time User Mod offers **Use this mod** or another zip. Tapping the ticked User Mod again turns it off.

From the internet: Mod Link…

Map menu › **Mod Link…**, paste the https:// address of the zip, **Download**. It is then kept and used the same way as a zip from your device.

One mod is kept at a time; a new one replaces it. The chosen mode is remembered, so the game starts with your mod on.

10. Sharing a mod

Mod Link downloads the zip straight from the browser, so the site it is on must **allow other sites to download its files** (it sends the CORS header `Access-Control-Allow-Origin`). Many do not.

Where	Works with Mod Link?
GitHub, raw file link `https://raw.githubusercontent.com/<user>/<repo>/main/old-town.zip`	**Yes.** Put the zip in a public repository and copy the link of the **Raw** button.
GitHub Pages `https://<user>.github.io/<repo>/old-town.zip`	**Yes.**
Your own site or a storage bucket	Yes, if it sends `Access-Control-Allow-Origin: *` for the zip.
GitHub Releases download links	Usually not (their redirect does not allow it): use a raw link instead.
Google Drive, Dropbox, OneDrive, WeTransfer, Discord	No. Share the zip there for people to download and load with User Mod instead.

> Only `https://` links are taken, and links with a login in them are not used. The zip is checked the same way as one from a device.

Licence and credit

Only share textures you made or may share. If your mod is based on someone's texture pack, follow its licence and credit its author in your mod's page or readme, as this guide does for najjar320's Pixel Facades.

11. When a mod is refused

The game says exactly what is wrong; nothing of a refused mod is used and the mod you had stays.

Message	What to do
That is not a zip file.	The file is not a zip, or it is damaged. Make it again with your system's "Compress" / "Send to zip".
There is no facades.json in the zip (at its top, or in one folder).	Put facades.json at the top of the zip, or inside one folder at most (my-mod/facades.json).
facades.json is not valid JSON.	A comma or quote is wrong. Check it in any JSON checker.
facades.json has no "facades" list.	The file needs "facades": [...] with at least one facade.
A mod can have 24 facades at most.	Split it into several mods.
... needs a "name" of letters, digits, _ or - (40 at most).	Names like old_town-2. No spaces, dots or slashes.
the name "..." is there twice.	Each facade needs its own name (letter case ignored).
"... w" must be a number from 1 to 4096.	Every size is a whole number of pixels, 1 to 4096 (floorsInPart 1 to 12, floorMetres 2 to 6).
"floorRows" must be less than "top"	The top picture holds the last floor AND the roof edge above it, so it is taller than one floor.
Missing picture: facade_..._top.png	Each facade needs its three pictures, named exactly facade_<name>_top / _floors / _ground (.png, .jpg or .webp), next to facades.json.
... is not a PNG, JPEG or WebP picture.	Only real pictures are read. Re-export it as PNG.
... is too big: 8 MB at most.	Make the picture smaller, or save it as PNG with fewer colours.
The mod is too big: 25 MB at most.	The whole zip must be under 25 MB.
Some of its pictures could not be read (or are bigger than 4096 dots a side).	A picture is broken, or wider / taller than 4096 px.
That site does not let the game download the file. ...	Mod Link only: the site does not allow downloads from other sites. Host the zip where it does (see "Sharing a mod").
The link answered 404 - check that it is right.	Mod Link only: the address is wrong, or the file is private.
Only https:// links can be used.	Mod Link only: use the https:// address of the file.

12. Checklist, tips and credits

Before you share

- All three pictures of a facade have the same width, written as `w`.
- `top` = roof edge + `floorRows`; `floors` = `floorsInPart` × `floorRows`.
- Left and right edges join; the floors picture's top and bottom join.
- Edges of the pictures look fine when cut (no half windows at the edges).
- Even lighting, no baked-in shadows.
- The zip loads with User Mod without a message; look at low, middle and tall buildings, and at the north (darkest) side.
- Credit the textures' author if they are not yours.

Tips

- Start from demo-mod.zip: change one facade, zip, load, look.
- More facades = more variety on a street; 5–10 is a good number.
- Keep the floor height in pixels the same for all your facades (e.g. 59 or 64), so they share one scale.
- Shop fronts, doors and steps belong in `_ground`; balconies and window rows in `_floors`; cornices, parapets and roof lines in `_top`.

Credits

The example facades — Brownstone, Limestone, Art Deco, Mediterranean and Shop Terrace — shown throughout this guide and used by the game are from
Pixel Facades – 100 Building Textures by **najjar320**
https://najjar320.itch.io/pixel-facades-100-building-textures