META-META Club

WORKBOOK · MODULE 3 OF 4

Floor-plate staging and web viewer

XR for the Built Environment. XR spec module 2: stage a floor plate and share it as a link.

Pro studios | 4 lessons | ~2.8 h | 4-question practice quiz | Notes pages

IN THIS MODULE

Floor-plate staging and web viewer

XR spec module 2: stage a floor plate and share it as a link.

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3.1	The real brief	READ	20 min	☐
3.2	Build walkthrough	VIDEO	40 min	☐
3.3	The AI prompts used	READ	20 min	☐
3.4	Extension task	PROJECT	90 min	☐

How to use this workbook

- Work through each lesson on metametaclub.com/learn, or listen to its narration, then use the page here to take notes.
- Tick the steps as you go, and write your answers under **Check yourself** before you look anything up.
- Do the practice quiz at the end, then mark it with the answer key on the last pages.
- Keep every **Ship it** piece. Together they become what you show.

Before you start

What do you already know about this, and what do you want to be able to make by the end?

LESSON 3.1 · READ · 20 MIN

The real brief

Read a typical floor-plate staging brief and turn it into scope and acceptance criteria. As before, the brief is anonymised.

Key points

The brief

> An office building is leasing open floors. Agents send PDFs of empty floor plates, and tenants can't picture their team in the space. We want a link that shows one floor staged two ways (open plan and a mix of rooms), that works on a phone, and that agents can share in a message. No app downloads.

Reading it like a builder

- **Device:** phones and laptops, in a browser. No headset needed.
- **Users:** tenants and their teams, who are not 3D experts.
- **Core action:** see the floor, switch between two layouts, look around.
- **Scope:** one floor plate, two staging layouts, a few views.
- **Delivery:** a link. It must load fast on mobile data.

What "staging" means here

Staging is furnishing an empty space so people can read it: desks, meeting rooms, a kitchen, plants, people-scale objects. Good staging tells a story about how a team would work there.

Questions for the client

- Which floor, and do we get IFC, DWG drawings or only PDFs?
- What are the two layouts' rules: desks per person, number of meeting rooms?
- Should the viewer show measurements or areas?
- Is the core (lifts, stairs, toilets) fixed and shown as-is?
- Any branding for the page?

Acceptance criteria

1. The link shows the floor within five seconds on a mid-range phone.
2. A toggle switches open plan and rooms layouts.
3. Three preset views: overview, a desk area, a meeting room.
4. Orbit and zoom work with touch and mouse.
5. The GLB stays under a size you set with the client, such as 15 MB.

Steps checklist

- [ ] Copy the brief into your notes.
- [ ] List device, users, action, scope and delivery.
- [ ] Write the questions you would send.

- [ ] Draft the acceptance criteria in your own words.

SHIP IT

Your brief summary, questions and acceptance criteria.

- [ ] Shipped. Link or file: _____

Check yourself

1. How is this brief different from the Quest 3 configurator?

2. Why does staging not need to be photoreal?

3. Which criterion protects the experience on mobile data?

LESSON 3.2 · VIDEO · 40 MIN

Build walkthrough

Follow the build of a staged floor-plate viewer, from plan to a link, and learn the tricks that keep it fast on a phone.

Key points

The build

1. **Floor plate.** Model the shell from drawings or IFC in Blender: slab, columns, core, glazing. Keep it simple and clean.
2. **Furniture kit.** A small set of reusable pieces: desk, chair, meeting table, sofa, plant, kitchen counter. Low-poly, shared materials.
3. **Two layouts.** Place the kit twice, in two collections: `Layout_Open` and `Layout_Rooms`. Use instances, not copies.
4. **Light.** Bake ambient occlusion and soft light into the shell textures, or use a simple environment light in the viewer.
5. **Export.** One GLB with both layout collections, modifiers applied, and textures compressed.
6. **Viewer.** A Three.js page with orbit controls, three preset views and a layout toggle that shows one collection and hides the other.

The toggle in Three.js

Each Blender collection exports as a node you can find by name:

Keeping it fast

- Instance furniture. Forty desks should be one desk drawn forty times.
- Keep textures small. 1024 pixels is often plenty for furniture.
- Avoid real-time shadows from many lights. One directional light is enough.
- Check `renderer.info.render.calls` in the console. Fewer draw calls, smoother phone.

Steps checklist

- [ ] Watch the build and note each stage's tool and output.
- [ ] Note every performance trick used.
- [ ] Write the names of the collections you would export.
- [ ] Sketch your viewer's controls: toggle, three views, reset.

This lesson has code samples. They are in the lesson on metametaclub.com/learn.

SHIP IT

A sketch of your viewer and a list of the performance tricks you will use.

- [ ] Shipped. Link or file: _____

Check yourself

1. Why place furniture as instances?

2. How does the layout toggle work in the viewer?

3. Where do you check draw calls?

LESSON 3.3 · READ · 20 MIN

The AI prompts used

See how AI speeds up staging a floor plate, and where people make the calls.

Key points

Where AI helps

Layout drafts. A language model can propose a furniture layout from rules, as a list of positions you then place by script.

> I have a 30 by 18 metre office floor with a central core of 8 by 6 metres. Propose an open-plan layout for 60 people with desk clusters of 6, two meeting rooms for 8, one kitchen, and 1.5 metre walkways. Return JSON: type, x, y, rotation in degrees.

Placement scripts. A coding agent turns that JSON into a Blender script that places collection instances.

Where a person decides

- **Rules and fit.** Check walkways, fire routes and that desks do not block glazing or the core. A layout that breaks building rules is worse than none.
- **Story.** Two layouts should show two real ways of working, not two random arrangements.
- **Truth.** Areas and capacities shown to tenants must come from the client's measured data, not a model's guess.
- **Taste.** Calm colours, enough empty space, people-scale details.

A rule for numbers

Never publish a number an AI produced without checking it against a source. Desk counts, areas and distances go to the client for sign-off.

Steps checklist

- [ ] Write a layout prompt for a floor you know, with clear rules.
- [ ] Ask for JSON output and check it by eye on the plan.
- [ ] Ask a coding agent for the placement script and read it before you run it.
- [ ] List three things you corrected from the AI draft.

SHIP IT

Your prompt, the JSON, the script and your list of corrections.

- [ ] Shipped. Link or file: _____

Check yourself

1. Why ask for JSON instead of prose?

2. Which numbers need client sign-off?

3. What is one layout rule an AI draft might break?

LESSON 3.4 · PROJECT · 90 MIN

Extension task

Stage a second floor plate and publish both as one shareable web viewer.

Key points

What to build

- A second floor: a different shape, or the same building's other floor with a different core.
- One staging layout for it, built from your furniture kit.
- A viewer that switches floors as well as layouts, with preset views for each.

Quality bar

- Both floors read clearly in the overview.
- Switching is instant once loaded.
- The page works with touch.
- File sizes are noted and sensible.
- Every asset you did not make is credited, and the plans are yours to share or anonymised.

Steps checklist

- [ ] **Model the second floor** in Blender as its own collection, `Floor_2`. Reuse materials from the first.
- [ ] **Stage it** with the same furniture kit, as instances, in `Floor_2_Layout`.
- [ ] **Export one GLB** with both floors, or two GLBs if size is a problem. Two files lets the second load only when asked.
- [ ] **Extend the viewer.** Add a floor switch next to the layout toggle. Hide what is not selected.
- [ ] **Add preset views** for floor 2. Store each as a camera position and a target point:
- [ ] **Test on a phone** over mobile data. Time the first frame.
- [ ] **Publish** to a static host and check the link in a private window.

```
This lesson has code samples. They are in the lesson on metametaclub.com/learn.
```

SHIP IT

The published link, with a short note on what you changed for floor 2 and your load times.

- [ ] Shipped. Link or file: _____

Check yourself

1. Why might two GLB files load better than one?

2. How do your preset views help a tenant who has never used 3D?

3. Have you checked the link on a phone?

PRACTICE QUIZ

Check your module

Circle one answer for each question. The answer key is on the next page.

1. What is the delivery format for the floor-plate brief?

(A) A Quest 3 app
(B) A link that works in a phone browser
(C) A printed PDF
(D) A desktop installer

2. How does the viewer switch between two staging layouts?

(A) It reloads the page
(B) It toggles the visibility of two exported collection nodes
(C) It swaps textures
(D) It changes the camera only

3. An AI layout draft gives a desk count for the floor. What should you do?

(A) Publish it
(B) Check it against the client's measured data and get sign-off
(C) Round it up
(D) Delete it

4. Which change most helps a staged floor run smoothly on a phone?

(A) More real-time lights
(B) Instancing furniture and keeping textures small
(C) Higher-resolution textures
(D) Turning off compression

ANSWER KEY

Answers and why

1 · B A link that works in a phone browser

Agents share a link in a message; no downloads, and it must work on mobile.

2 · B It toggles the visibility of two exported collection nodes

Each Blender collection exports as a named node; showing one and hiding the other switches layouts.

3 · B Check it against the client's measured data and get sign-off

Numbers shown to tenants must come from checked sources, not a model's guess.

4 · B Instancing furniture and keeping textures small

Instancing cuts draw calls and small textures cut memory and download size.

NOTES

Build log and notes

SESSION	WHAT I MADE OR LEARNED	NEXT STEP