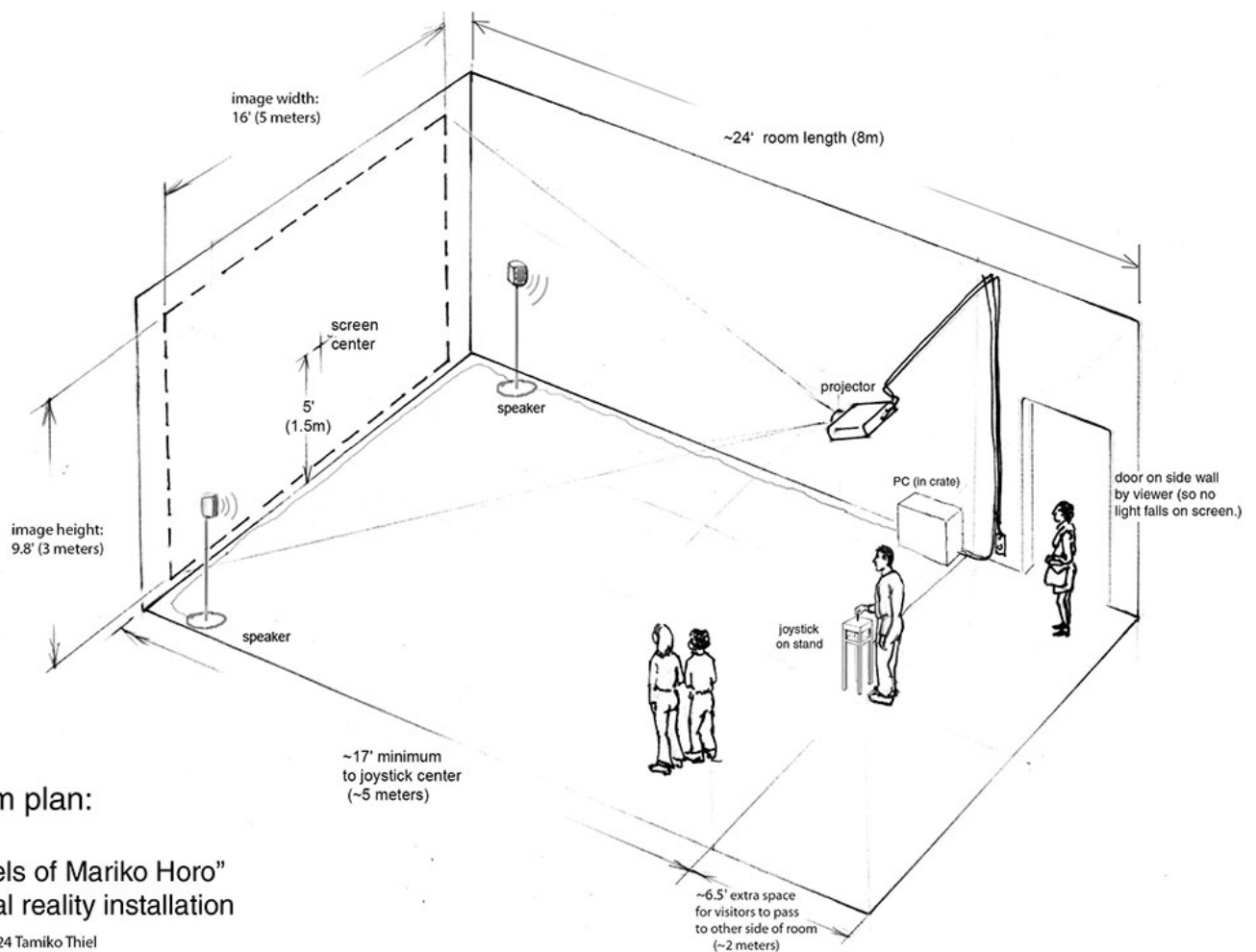# *The Travels of Mariko Horo* - Installation Requirements

This virtual reality installation runs off the hard drive of a **Windows 10 or Windows 11 PC** with a special **Nvidia graphic card.** It does NOT run on Macs.

- It requires the Bitmanagement Software VRML/X3D browser, which I can provide.
- The user input device is a simple joystick, usable by all, even many disabled.
- Sound is conveyed by 2 active stereo speakers connected to the PC.
- The virtual environment is projected in real-time on a large 5x3 meter (16'x9') screen or white wall.
- The center of the image (and thus the horizon line) should be roughly at eye height, with the bottom edge of the image only about 10 cm (4") from the floor. This size and positioning is carefully chosen so that the image is life-sized and fits the users' viewing perspective, thereby engages their kinesthetic senses and producing a strong sense of immersion without a VR headset, while enabling a group of visitors to watch and share the experience.

See the next page for detailed hardware and software requirements.

Room plan:

"Travels of Mariko Horo"
virtual reality installation

2009-2024 Tamiko Thiel

I will provide the following hardware and software:
- Software for the 3D interactive artwork
- 3D browser plugin and license
- Modified joystick in joystick box

I ask the venue to provide the following hardware and software:

Room should be **dark** and ideally **enclosed on all 6 sides:**
- Entrance on rear side of space, so no light falls on screen.
- Walls extend to the ceiling, so no light leaks in between wall and ceiling.
- No other sources of sound nearby. (Soundtrack has large dynamic range. Quiet sections should be well audible and loud sections should not conflict with nearby artworks.)
- **Room dimensions:** min. 3m high x 5 m wide x 7m deep (or 9' high x 16' wide x 23.5' deep.)

Screen (or white wall with a good surface):
- **Screen or projection surface:** 3m high by 5m wide (9' high by 16' wide)
- **Screen center:** 1.5m (or 5') from floor (lower edge of screen almost touching floor!)

Data projector (takes computer input):
- Image resolution 1920x1080.
- **3500 ANSI lumens minimum**, high contrast
  If the room cannot be made very dark, **4000+ ANSI lumens** is needed
- keystone distortion compensation
- ceiling mounted (or light enough to sit on shelf suspended from ceiling) so a 1.90m (6'3") tall man does not cast a shadow on the screen.
- long PC-projector cable to reach PC.

PC hardware (**minimum** requirements – essentially an office PC but with an extra graphic card):
- Intel i5 processor
- 8 GB system RAM
- Graphics card: NVIDIA GeForce GTX 1050 is very good, and cheap
- 400 Watt power supply (needed for graphic card)
- **Sound card: ideally M-Audio Delta Audiophile 2496 or equivalent – speakers to match!**
- USB extension cable to go between joystick and PC (length as needed, repeater NOT required)

PC software:
- Windows 10 or Windows 11

Active stereo PC speakers:
- Min. 20 Watt, ideally 40 Watt
- Frequency range 55 Hz – 20kHz
- **Cables/connectors must match output from PC!**
- Speakers should be mounted to the right and left of screen, ideally on the wall at head height. If sound has to be kept low to avoid conflicting with other installations, mount close to the joystick and slightly in front, so sound can be low, but still loud enough for users at the joystick.

Joystick stand (per my drawings):
- Wooden stand roughly 22.5cm square and 90cm high (8 7/8" x 35.5"), to hold joystick box
- Legs bolted to floor (or **floor board roughly 1m wide x 1.5m long – 3' wide x 4' long**) for stability