

BAMBOO SHADOW

DIGITAL CONSTRUCTION PRACTICE WORKSHOP

GROUP PROJECT

DIRECTION/

Interaction Design
Installation Art

ROLE & CONTRIBUTION/

Research 50% Ideation 10%
Visual Design 10% TouchDesigner 10%

DESIGN TEAM/

Jialu Li & Jiajun Zhu

CONSTRUCTION TEAM/

Jialu Li, Jiajun Zhu, Xinyue Chen, Yutong
Shen, Qijia He, Tingkai Chen, Shaojun Feng,
Keying Xiang, Yiwei Weng, Zhouyue Wang

LOCATION/

Anji, Huzhou, Zhejiang

TIME/

2024.7.20-7.30

SITE ANALYSIS



We are very rich in bamboo forests in Anji...

and have a very mature bamboo component processing technology.



Population Type :
Young people

FEATURE :
Anji is extremely attractive to young people. With beautiful natural environment that can relieve pressure, it has strong policy support, convenient transportation and great market potential. It is an ideal place for young people to start businesses.

Population Type :
Elder

FEATURE :
For the elderly, Anji has a good ecological environment, improving medical facilities and more elderly care services. The community atmosphere is harmonious, an ideal place to live.

Population Type :
Students

FEATURE :
For students, Anji offers a serene learning environment. The natural beauty can inspire creativity and provide a break from studies.

Population Type :
Worker

FEATURE :
For workers, Anji has a growing economy with job opportunities. Its beautiful environment helps relieve stress. Good infrastructure and friendly atmosphere make it an ideal place to work and live.

Population Type :
Tourist

FEATURE :
For tourists, Anji is a paradise. Its stunning natural scenery, such as bamboo forests and clear waters, is a feast for the eyes.

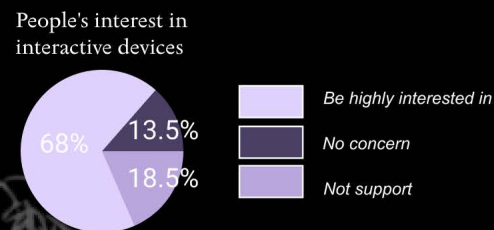
Superior Material Properties:

Cultural Representation:

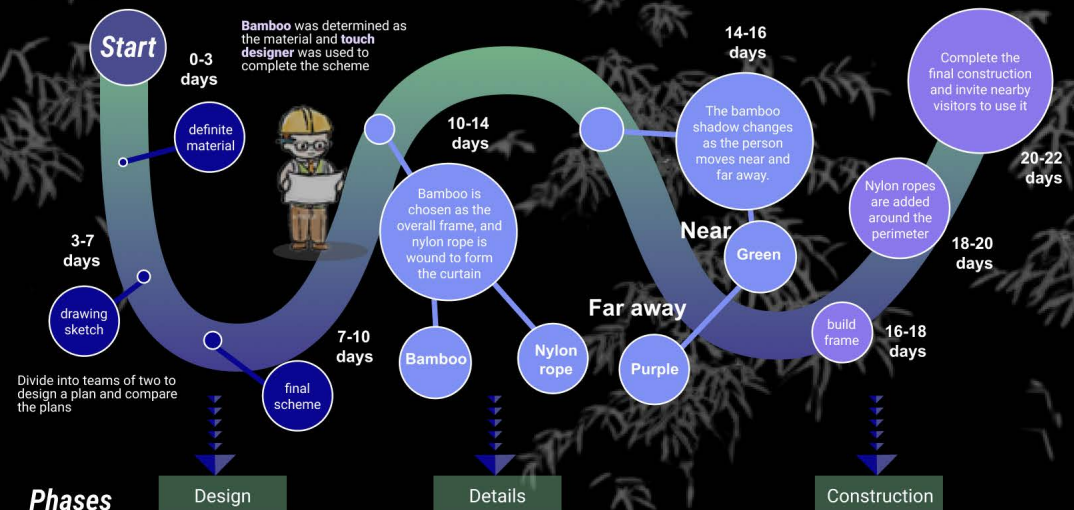
Sustainability:

Resource and Cost Efficiency:

CONCEPTUAL DESIGN



In a questionnaire answered by 200 people, 136 people expressed their expectation for it. 27 people showed no concern. The remaining 37 people indicated that they did not hope for it.



BUILDING PROCESS

The "Bamboo Shadow" project started with the selection of bamboo, went through the frame construction, nylon rope weaving, and the final adjustment and decoration. The whole process paid attention to the selection of materials and the stability of the structure, and finally realized a natural and delicate bamboo structure.



Observe whether the area is accord with requirements .



Choose bamboo of the right length and thickness



Use steel bars to pierce the bamboo for subsequent use



Draw plan lines on the field



Secure the bottom steel bracket



Use a cutter to cut bamboo



Secure the bottom steel bracket



Measure out the correct height



Complete a skeleton



Bend the bamboo to form the door's frame



Finish the upper part to form the overall frame



Measure spacing and create the nylon rope curtain



Insert nylon rope



Fixed details: Use a staple gun to drive it in



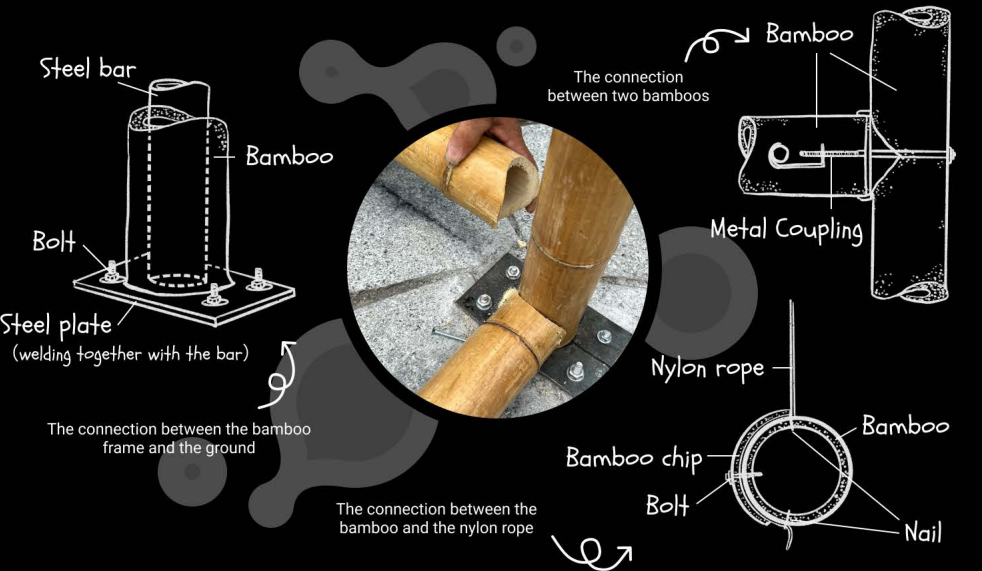
Finish four sides of nylon rope fastening



Complete the final construction

DETAILS

In the construction, we used different connections to connect various nodes, such as bamboo and ground, bamboo and bamboo, bamboo and nylon rope. These exercises have enriched our hands-on skills and knowledge base about bamboo structure construction.



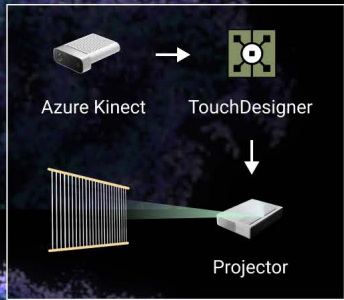
FINAL DESIGN



After the construction is completed, we invited some people to use it. After confirming that there are no problems, we enter the stage of using Touch Designer to complete the interactive effects.

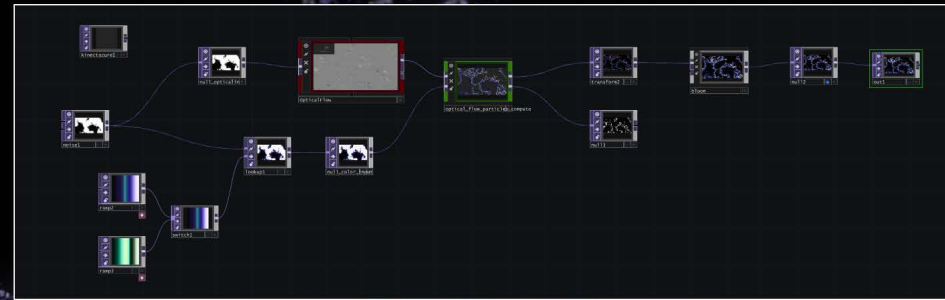
SOFTWARE USAGE OVERVIEW

SYSTEM FRAMEWORK



We create dynamic and interactive projection effects by combining data input from Azure Kinect, noise generation, optical flow computation and visual effects processing from TouchDesigner. The closer to the projection, the greener the originally purple color of the screen becomes, showing the green bamboo shadow effect.

TOUCH DESIGNER



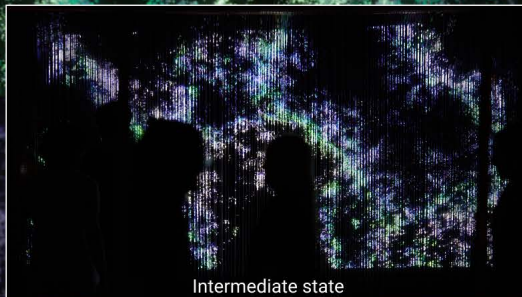
BAMBOO SHADOW

Visual Effects in TouchDesigner

PROJECTION EFFECTS



When approaching the projection



Intermediate state



When moving away from the projection

USER TEST

After the build workshop, a number of pedestrians had already come to experience our installation. We invited different groups of people, including bamboo factory workers and tourists, to talk about their views and experiences of the installation. The following is the feedback from two typical users.



Bob

45
Bamboo Factory Worker

"After a long day, seeing this installation filled me with joy. The green bamboo shadows on the cube felt like a warm welcome. Stepping closer, I sensed the bamboo's vibrant life, while stepping back brought a calming purple hue. The nylon thread decorations twinkled like stars at night, creating a beautiful contrast. This interactive experience helped me forget my fatigue and connect deeply with nature and art. It truly made my day!"



Jane

25
Visitor, Student

“This projection is impressive, especially in its use of bamboo. It’s a thought-provoking space. The green shadows symbolize life when I’m close, while the purple effect conveys solitude when I step away. This contrast highlights the relationship between humans and nature. The nylon threads add an artistic touch, shimmering at night and enhancing my immersion. I love how this interaction makes me reflect on my place in the world.”