

SPIRAL METHODOLOGY

A living system that evolves with the Fab community



2.

TREE INSTALLATION IN BOSTON (FAB26 MIT)

We assemble the structure and install the modules, creating a collective and interactive experience during the event.

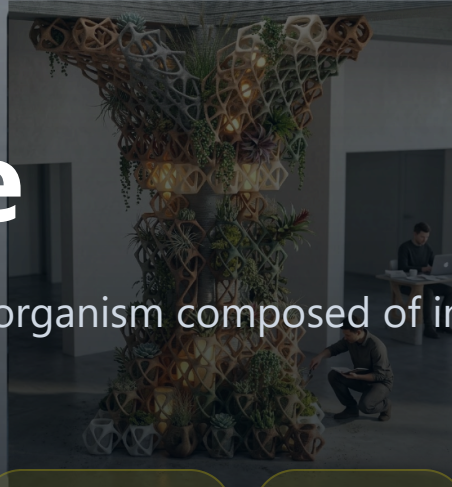
3.

MODULES TRAVEL — THE PROJECT LIVES ON

Participants take the modules back to their countries. The system continues sensing and visualizing the behavior of Fab Community around the world.

Fab Vine

A living digital-physical organism composed of interconnected intelligent nodes.



Year: 2026

Event: Fab26

Installation: MIT

Open source

Community: Fab Lab Network

RESULT:

Modular, scalable, and ready to deploy.

RESULT:

A living installation that senses and visualizes

RESULT:

A global, distributed network that continues to evolve.

With Fabio López, Amira Abdel-Rahman, Roberto Gallo, Sherry Lassiter, Neil Gershenfeld, and collaborators

THE CYCLE CONTINUES



Sense locally



Share globally



Act collectively



Keep the community alive

Summary

Fab Vine is a living digital-physical ecosystem composed of interconnected intelligent nodes that collectively sense, communicate, adapt, and evolve. Inspired by biological systems such as roots, mycelium, neural networks, and collective organisms, the project explores how intelligence can emerge from distributed physical relationships rather than centralized control.

Each node functions as an autonomous cellular unit capable of interacting locally with neighboring nodes while contributing to the behavior of the larger organism. Instead of depending on a fixed master controller, Fab Vine operates through dynamic coordination, where any node can temporarily become the active root responsible for synchronization and connection with the external digital world.

Information, light, behavior, and environmental reactions propagate organically throughout the network, creating an evolving spatial intelligence that grows similarly to a living ecosystem. The structure continuously adapts to interactions, environmental stimuli, and collective activity.

How It Works

The system combines intelligent nodes, embedded electronics, distributed communication, and emergent behavior. Each node can act locally while contributing to the larger organism.

Purpose

Fab Vine proposes a new vision of programmable matter and collective intelligence, where resilience, adaptation, and cooperation emerge naturally from the network itself.

Dimensions

Fab Vine exists simultaneously as a physical structure, a distributed computational system, a living interactive installation, and an experimental model for decentralized technological ecosystems.

Open Collaboration

More than an installation, Fab Vine is an experiment in living computation and distributed civilization, inspired by the observation of natural behaviors and decentralized technological networks.

Project Visuals

SPIRAL METHODOLOGY

A living system that evolves with the Fab community

1. MODULE DEVELOPMENT FOR THE EVENT

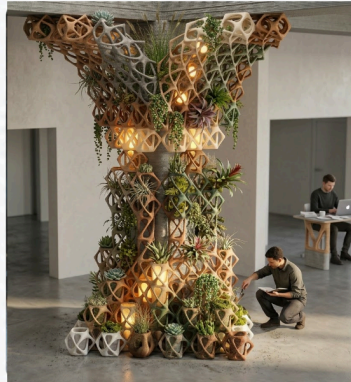
We design and fabricate the modules to be deployed during the installation.



RESULT:
Modular, scalable, and ready to deploy.

2. TREE INSTALLATION IN BOSTON (FAB26 MIT)

We assemble the structure and install the modules, creating a collective and interactive experience during the event.



RESULT:
A living installation that senses and visualizes collective behavior.

3. MODULES TRAVEL — THE PROJECT LIVES ON

Participants take the modules back to their countries. The system continues sensing the behavior of Fab Community around the world.



RESULT:
A global, distributed network that continues to evolve.

