



Everyone in the haze has a dream of forest



InForest
Interactive Space Design

Professional, May - November 2016

Program SRTP (Student Research Training Program)

Role Designer, Model Maker

Scope Research, Engineering, Architecture

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BACKGROUND: REALITY AND IDEALITY

URBANIZATION + NATURE = 0 ?

China is experiencing the fastest and greatest urbanization in the world, which leaves many thorny nature problems like air pollution, crowded traffic, and more notably increasing pressure on people. Not surprisingly, urban people are eager to get away from city and get close to the wild nature without haze once they have a chance.



INTERACTION = SCREENS ?

As informative transformation goes further and deeper, whereas ubiquitous screen-based user interfaces have profoundly changed people's life, it is estranging people from the real physical world. This context urges me to rethink interaction design on a larger scale-to design interactive system or environment where people are naturally immersed in.



dream of forest



InForest
Interactive Space Design

Imagine if you were leisurely sauntering in a forest, taking in all the sights, sounds and smells of nature. It will be the most welcome when you get tired of city's noise. The concept of InForest originated to produce an interactive experiential system arousing urban people the sensation of the forest. Our work started with analyzing the vertical structure of the forest which contributes to people's multi-layer sensory experience in the forest. Then we abstracted specific sounds from each layer for the following design.



Bird Tweet
Rustle of Wind

Emergent Layer

Cicada Singing

Canopy

Crickets Chirp
Frog Croak

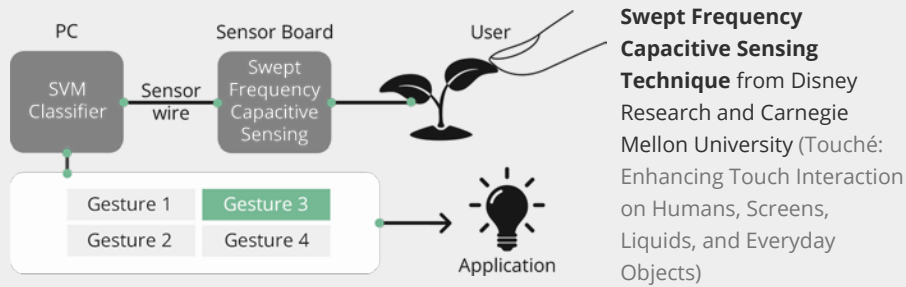
Shrubs

Murmur of Streams

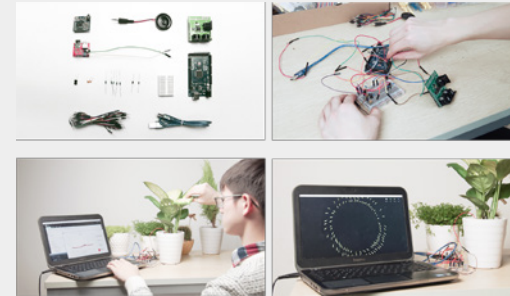
Forest Floor

INTERACTIVE TECHNOLOGY RESEARCH

PRINCIPLE



SENSING SYSTEM ESTABLISHMENT



A single conductive wire links the soil or water to our sensor controller. Through electric signal analysis, the sensing system could detect and recognize people's different interactions (e.g. approach, touch and etc.) with plants.

GESTURES CLASSIFICATION EXPERIMENT



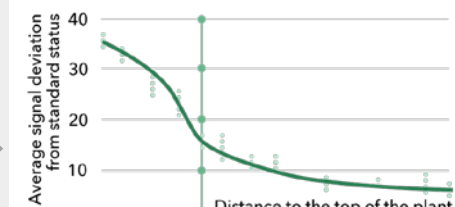
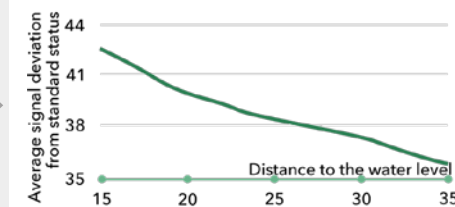
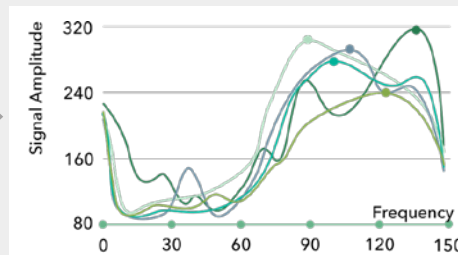
Different touch gestures



Touch different parts



Different approach gestures

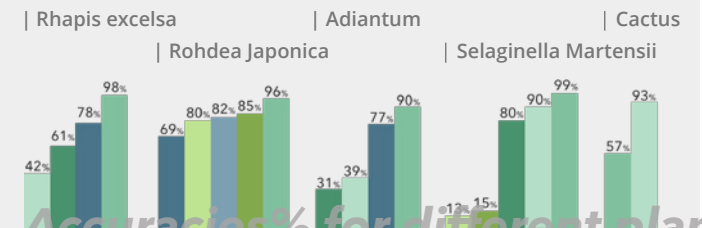


Capacitive profiles

Gestures classification was the next step to enhance plants with rich touch and gesture interactivity. Each transmission from the sensor contained a 160-point capacitive profile from which we extracted a series of features for classification.

After more than 400 times classification accuracies tests for different kinds of plants, we select reliable controlling gestures with accuracies over 80% of each plant for the following application.

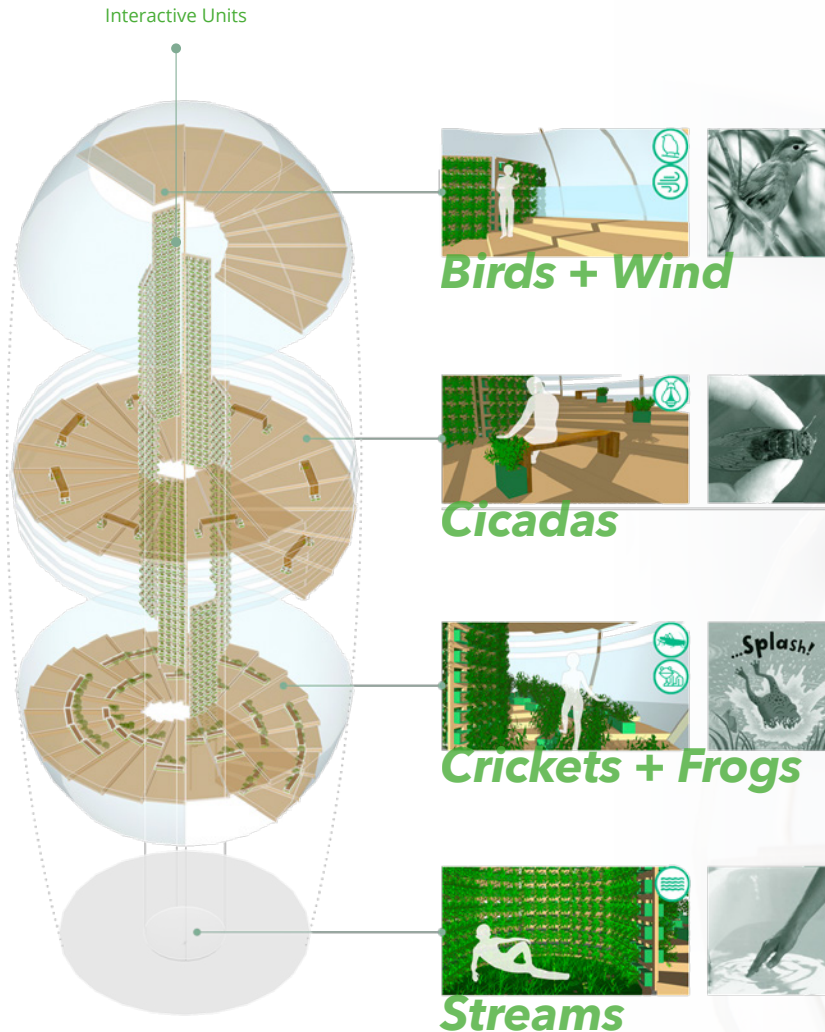
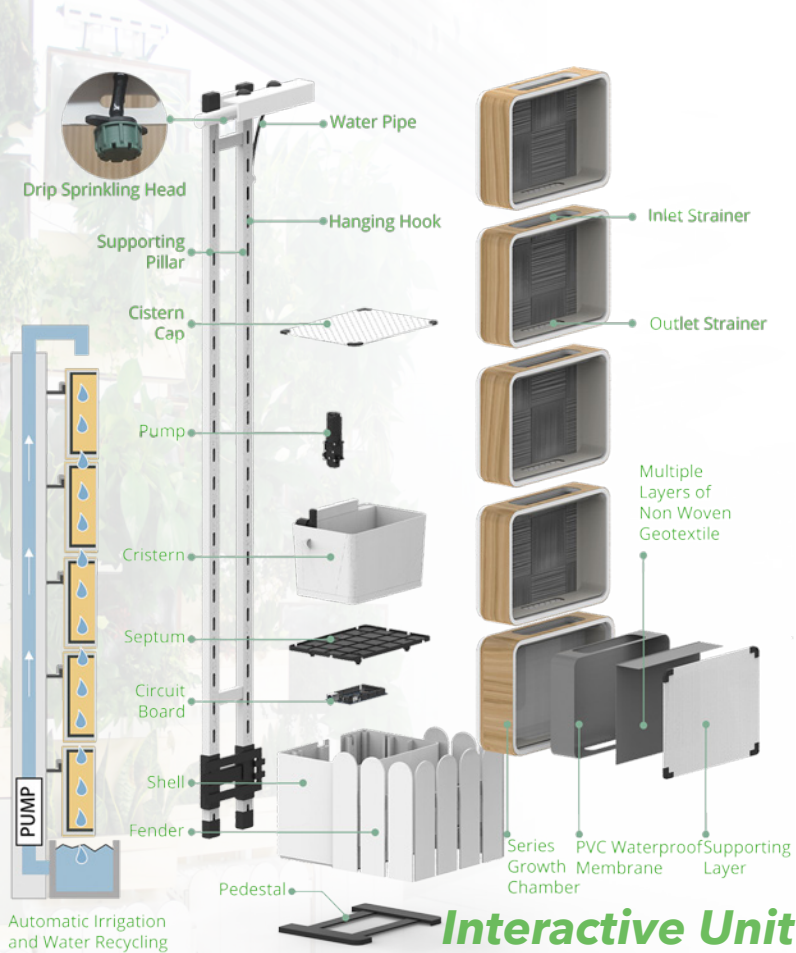
- Approach
- Touch
- Stroke
- Hold the Stem
- Pinch the Edge of the Leaf
- Pinch the Center of the Leaf
- Stick to the Leaf with the Palm



Accuracies% for different plants



CONCEPTION



People could control the volume of the sound of birds by changing the distance from their hands to the plants. When they touch the plants, they will hear all the birds scatter away suddenly and they need to move to another location to hear those birds singing again.

On this floor, people could rest under a tree in cicadas sounds. The sound could be gradually stopped by pinching the leaves.

Interactive plants units are installed along the trails going upward. People would hear frogs and crickets sounds when they walk on the trails, and even hear frogs' jumping into the water when they touch the plants.

The base of InForest is an urban interactive public breathing space where people participation is key. Our work taps into some of the most basic human instincts, to play and explore. It also generates talk value through a shared experience.

12,000 mm



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walk in the dream of forest

PROTOTYPE



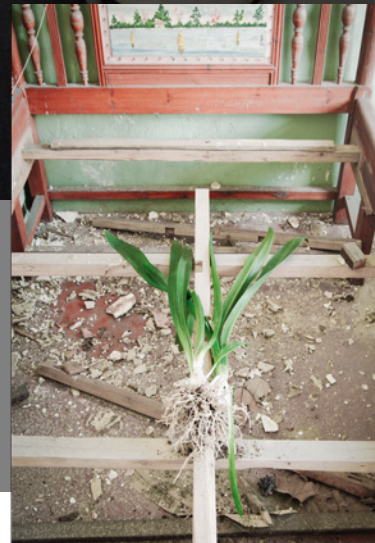
ONE MORE THING: GROWTH FOR USE?

Interactive Unit

InForest (Model Only)



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THANKS!

ZHEN WANG

visit alej.wang to learn more about me.