

Hola Jonathan and Massimo

Few thoughts about MIMODEK

I will write more tomorrow, especially about the connection between the data and MIMODEK.

For now:

There are sort of two parts of the project-even they are closely interlinked:

-1.conceptual

This is what I feel mostly responsible for and it needs to be thought-out before we even come to Madrid(uaa...!)It is needed to concoct the concept of the “next” MIMODEK :The dependencies between the data and the MIMODEK organism, the relations within the organism itself. The way of the interaction between the “live”participants and MIMODEK. The aesthetic part of the work.

-2.practical/realization

Here it's heavily dependent on your expertise. I have to say that I'm really happy to have such a good programmers on board!wow!

I really like the concept of modularity, which Jonathan is now developing. It will allow for the project to be much more flexible, to adapt to our new ideas and even new environments (there is still possibility-let's keep fingers crossed-for MIMODEKt to be accepted to the European digital facade festival).

TASKS

These are few tasks I can think of:

Tracking

Real time interaction – here the outcome- e.i. the responsiveness of the whole system is clearly more important then the method we use. At the end, the average viewer wouldn't know the difference between frame differencing and blob tracking. But they NEED to know that the big thing on the facade is reacting to them!

We need the system to be CLEARLY responding to the participant's behavior .

At the level of immediate interaction things need to be pretty straight forward. I would like to achieve the goal of the original proposal here: immediate, clear responsiveness; more complex interaction(mimodek is not reacting only at the movement of the agents, but also at their proximity among them selfs, and probably few other parameters (as velocity).

If there are technically unsolvable problems with tracking we need to find a way how to work around it (other technical solutions, aesthetical choices)

Memory

MIMODEK is slowly evolving organism. Since it has to be turned off most of the day, it needs to be able to remember it's own state before it was turned off and then continue growing from that point. Otherwise it loses quite an important point.

There should obviously be function to reset MIMODEK completely (for a different installation for example.)

Website

We just hinted on this during Open Up. It should be a website where images from Mimodek are uploaded and it also provides more information about the project.

I guess, I can do it during the time we will be in Madrid as you will be coding full on and most of the decision/ production kind of things shall be sorted by then.

Mimodek sending images to the website function

This relates to the previous point-Mimodek shall be transmitting images to the website. We need to decide how often it would happen (maybe only every time before the installation is turned off?)and automate the process.

Visual appearance

Although we are heavily limited by the facade's resolution, I would like to achieve much greater(visual)complexity.

It's clear we need to be working with extremely simple elements -i think the gradient circles are effective and we can stick with them.

But they have more parameters we can elaborate on in order to achieve more complex look.

I can think of:

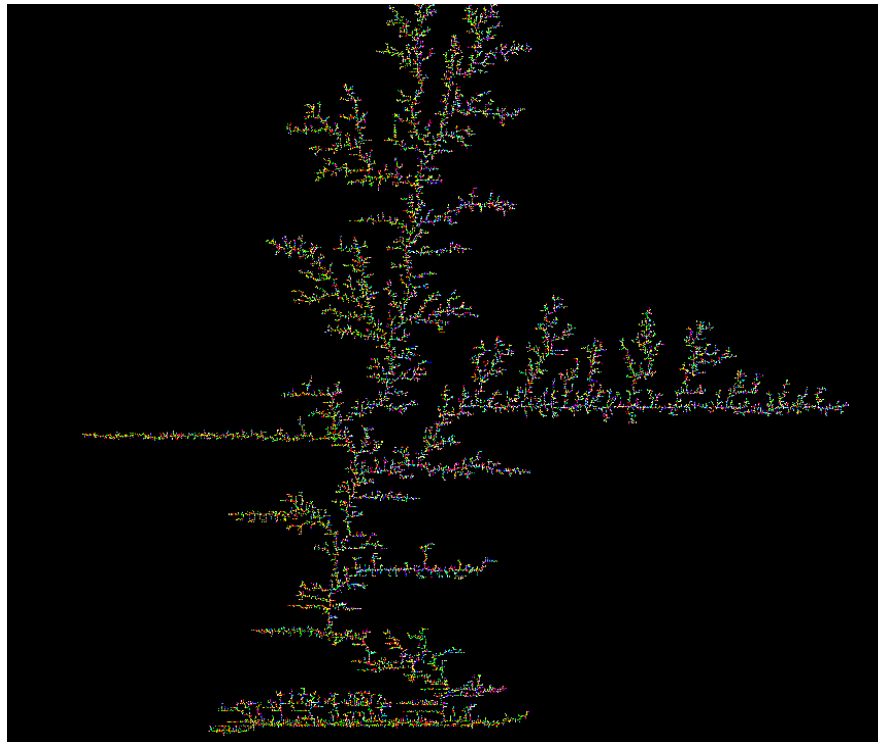
- size (we can work with much greater range of sizes than we did so far),

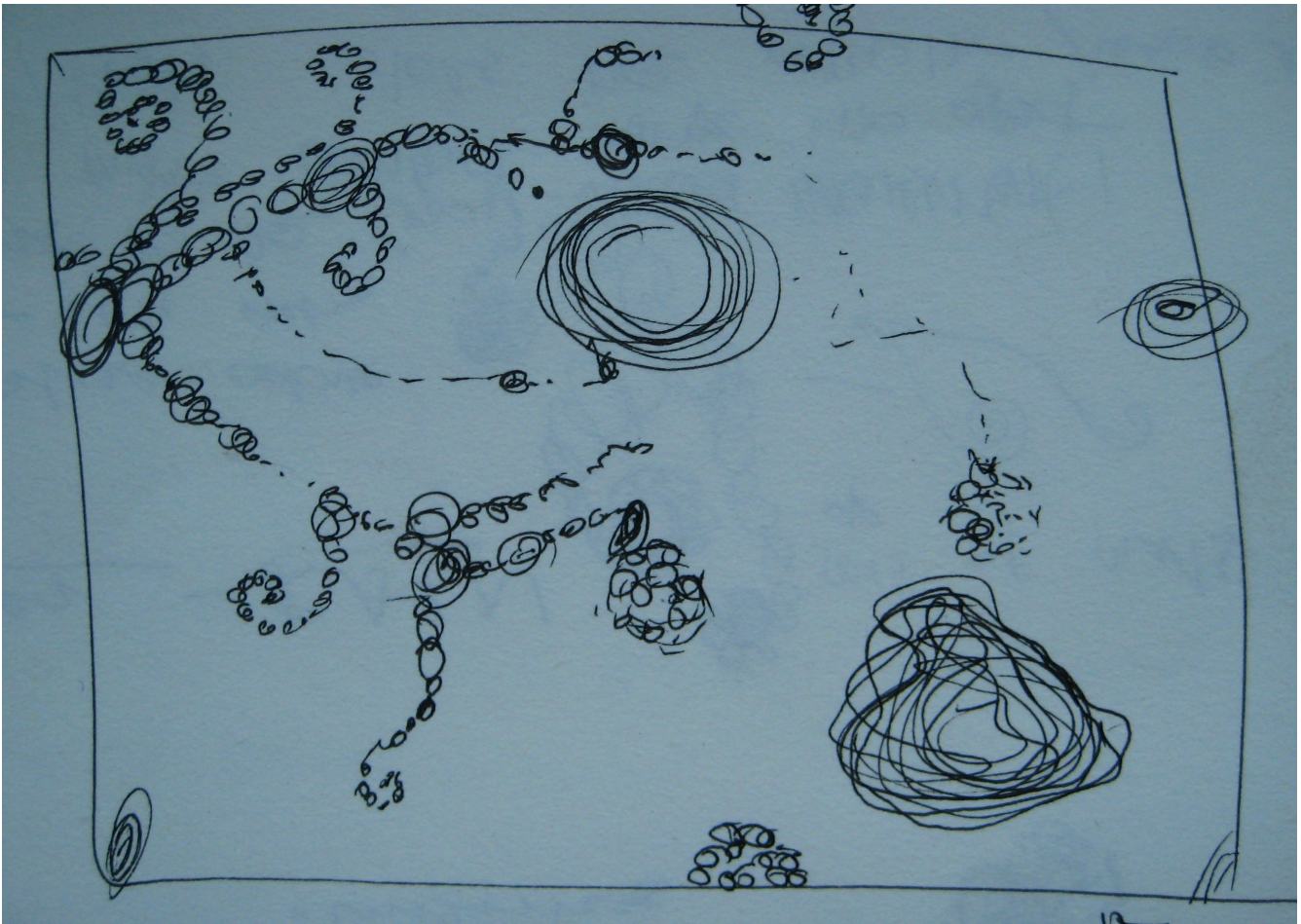
- shape of mimos (they don't have to be just circles-they can be also ellipses for example and they can be dynamically changing their shapes too(metaballs idea)

- color (we can work with greater variety, I would find a way how to make more then one color to appear during one evening. Temperature doesn't change so fast, maybe we can use other parameters ?)

- structure(i would keep it based on DLA but find a way to make it more more interesting..maybe ancestor mimos can be scaled much further down, so the structure can have much more nodes and really reveal it's beauty?)Some examples: <http://www.youtube.com/watch?v=QTIMb529cU0>

The scaling can be dynamic process , and cells could be dying much later in the game. It could even take months or never happened if the space isn't too crowded.





different sizes and shapes of mimos-more "grown" structure

BASIC STRUCTURE OF MIMODEK

I think that new MIMODEK has three main, visually different, levels of mimos(on contrary to old mimodek which has two levels -active and ancestor mimos). These are active mimos- dead mimos- ancestor mimos.

1. active mimo

Mimos following the agent(person) while they are at the plaza. It is one whole task to make this interaction obvious to the viewers(i.e. they need to know clearly the system is responding to them)and more complex(interesting)than in the first MIMODEK.

If the tracking loses the participant, the mimo becomes

2. dead mimo I.

Such mimos can be absorbed by active mimos, which will become bigger in result, or the dead mimo will disappear. They will not join the ancestor structure on their own.

If the agent leaves the plaza their active mimo becomes

dead mimo II.

Such mimos are absorbed by the ancestor structure and used for raw material to build new cells of the structure(mimodek organism).

Dead mimos need to be visually distinguished from active and ancestor mimos. Essentially they are “food”

Dead mimos (type I. And II. alike) can have the “energy loosing factor”Jonathan suggested before, and loose their “nutritional value” over time when they are still not absorbed either by active of ancestor mimos.

3. ancestor

That's the “main”body of mimodek. The basic structure is DLA, I think it makes sense to stick with it. But apart of that there is a lot of parameters to work with.

Essentially the material for the ancestor mimos (cells of the structure) - is obtained from dead mimos the structure absorbed. The process how the dead ones get absorbed can be quite dynamic , but I want to avoid overly dramatic scenario of pure dead mimos trying to escape the monster ancestor!!!!!!

I would like to involve some cognitive process here(“adaptation”according to Fry). For example, MIMODEK can learn where most of the agents leave the Plaza=where most of the dead mimos appear. Since they are loosing energy-nutritional value by time, mimodek ancestor structure can learn to grow there in a way so it can absorb them easily and fast.

DEFINITION OF SIMPLE ORGANIC SYSTEM AND ITS IMPLICATION IN MIMODEK PROJECT

1.Structure–aggregation of elements to form more complex structures

DLA

2.Appearance–visual expression of internal state

Some parameters:

color

shape of mimo's

size of mimo's

3.Metabolism–synthesis of nutrients for raw materials and fuel

Real time interaction input provides the raw material – “As part of cellular synthesis, the raw materials are used for building or repairing a cell. ” It creates the mimos-cells of mimodek organism.

The data provide nutrients for fuel- “ nutrients for fuel are converted to energy to drive the synthesis as well as other activities of the cell ”

? Which data can we use? What do they affect?

4.Growth–an increase in either scale or amount of structure

“ Along with growth comes atrophy, where individual cells might decrease in size or even die....The process of atrophy is slow and non-explicit. ”

How many mimos can be on the screen before it get too clustered?

5. Homeostasis–the maintenance of a balanced internal state

It seems that we been mistaking this with atrophy before. Homeostasis is about balance:
“When applied to organic visualization, homeostasis has two modes of implementation. First, rules must be constructed so that they balance themselves, not allowing values to run out of control which might cause the system to ‘blow up’. Second, additional rules can be added that maintain the internal balance between the actions of the original rules. “

6.Responsiveness–reaction to stimuli and awareness of the environment

“Organisms are capable of responding to all kinds of stimuli. A stimulus can be one of a variety of environmental changes, such as a change in temperature or a sound. The stimulus and response can be simple, complex, or some combination of the two. ”

In mimodek case responsiveness happen on two levels:

-immediate interaction

active mimos can use as stimuli :

movement of the agents,

time (how long the agent is present at the plaza),

velocity of agents movements,

sudden changes of velocity,

proximity of agents among themselves,

data (which data?)

dead mimos I.

-ancestor mimos-mimodek organism

can use as stimuli :

active mimos (For ex. it can react by movement when active mimos cross over it.),

dead mimos II.-getting food

data (some suggestion further)

7.Adaptation–adjustments to survive in a changing environment

I think this is an interesting part. Adaptation is in fact process of learning. What can MIMODEK learn? To which condition it can adapt to? I suggested above one very simple concept for mimodek learning (3.ancestor).

8.Movement–behavioral expression of internal state

“ Movement is important for how an organism is perceived—it’s the most basic test an observer uses to determine whether it is alive. “

We need to think about the movement of active mimos, dead mimos and ancestor mimos.

And about the movement of the each mimo – and of the movement of whole mimodek organism.

9.Reproduction–the ability of entities to create others like itself

N/A