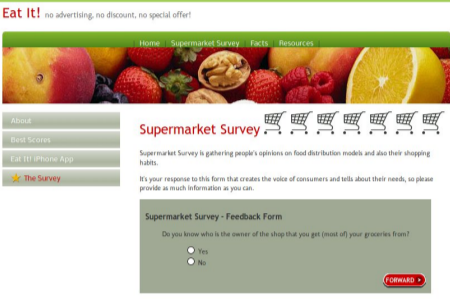


\\\\\\\\\\EAT IT! City Simulator\\\\\\\\\\

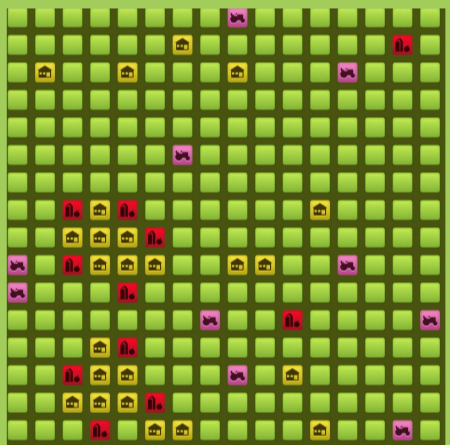
@ PZI Graduation Show, Witte de With

The EAT IT! City Simulator game is an attempt to structure and analyse current problems in urban planning, and more generally, problems of power distribution. The city simulator is based on the food industry and distribution model, and consists of three parts:

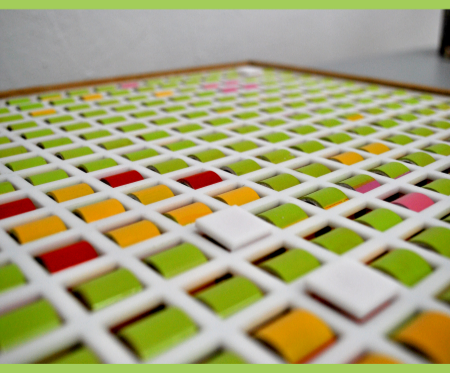
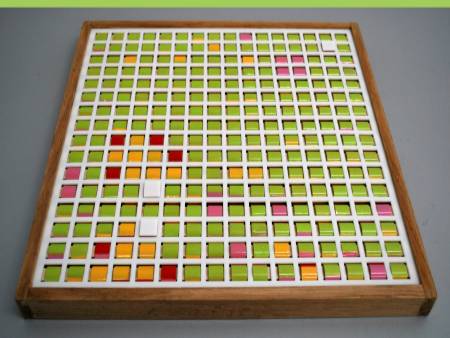
. the online survey of people's opinions about their shopping habits;



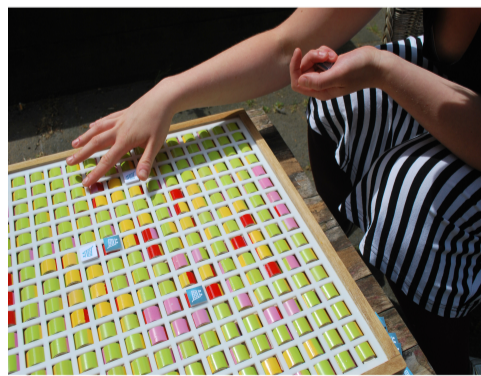
. the simulation, showing the effect of people's opinions on a space, delineated by the rules of the game



. the board game, with the initial state of the city determined by people's opinions and players assuming the roles of two competing supermarket chains;



EAT IT! City Simulator: SUPREMACY is a city-building game. It is a game about business models and their impact on space. Through providing elementary urban planning tools, it helps to create awareness of the power structures involved in both land usage and food distribution systems. It exposes the conflict and confrontations of public and private interests through the impact of supermarkets on different city zones.



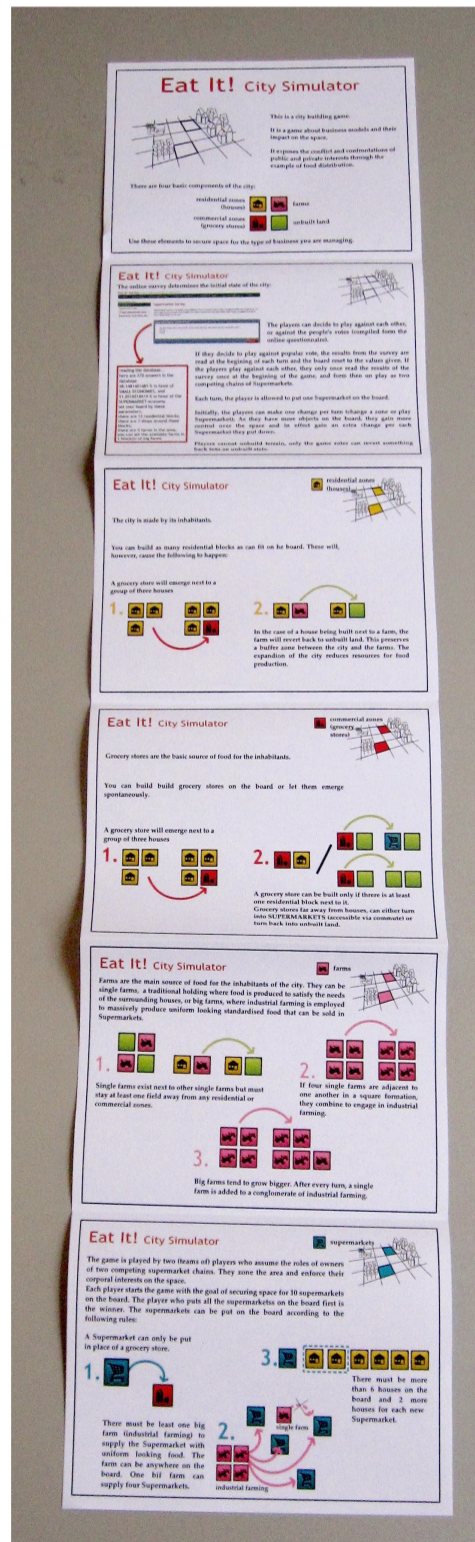
...on urban planning

Urban planning is a projection of spatial distribution of activities and designated densities within a physical structure. Historically, it has been conducted by experts who zoned down cities in their two-dimensional representation. The number of people involved and the complexity of zones has increased significantly, but planning is still being done from the position of an "all-seeing eye".

Up until now, the all-encompassing idea of including citizens in the planning processes and decision-making has been limited to certain areas and predetermined participatory forms. These forms being designed by the ones who may still be called "experts", and the change has been quantitative rather than qualitative, with more minds included in the system, resulting in less responsibility per mind, but not necessarily more space for different ideas.

One way of including more transparency into the processes of design and decision-making is through a simulation game. This potential for gaming lies in its ability to try out a range of solutions and explore the consequences of future decisions in a short time frame. Communication through gaming proves useful for clarifying and resolving conflicts of interest and value systems between the different (teams of) players involved.

game rules:



...on simulation, games

In order to understand the complexity of the world (of nature), we try to envisage phenomena in their basic physical structure. Anything from a diagram to a detailed physical model or a synthetic environment can be used to simulate it.

When building a simulation, basic assumptions need to be very clearly defined in order for the simulation model to be useful. Every parameter has to be given a value. This means that, in case of very complex processes where these parameters need to be estimated, the results might rely on unrealistic assumptions, or in fact be biased to a particular result or eventuality.

The other problem of simulation is predictability of the outcome. Since the simulation is a human-made system, all inputs will be determined by the creators and therefore all possible outcomes limited by their imagination. It is very unlikely to find something we didn't make space for to spontaneously appear.

Just as statistics can be tweaked and refined to prove certain facts, simulations can be tuned in favor of certain scenarios.

When discussing the use of simulation games as an expert tool, we can draw a line from theories of the ludic society (Huizinga, Nieuwenhuis) to the development of games by the entertainment industry which we can "get good at", and which are paralleled by the development of critical games that try to "explain the world" through their subversion of simulations and construction of unexpected meanings.

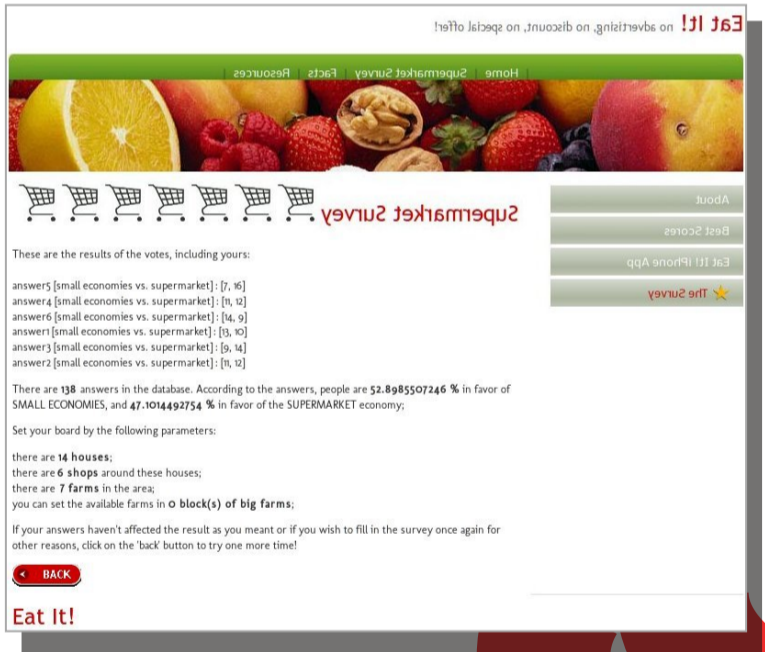
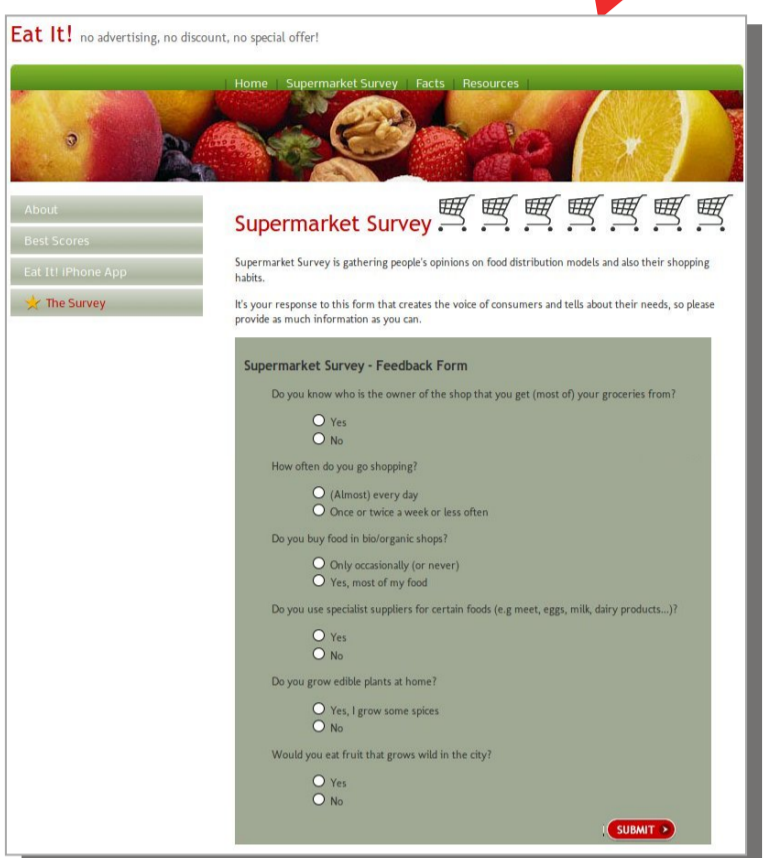
...on food

The food industry can be used as a model for the hierarchical system of power and control usually found in political and public media structures. Driven by interests of multinational corporations, it is an alternative power structure to political and governmental systems. Its effect on society is similar to the effect of any other profit-oriented business - fabrication of needs to meet production surplus, reduced interaction with customers to foster passive consumption...

With an analytic approach to the question of who can produce and consume in today's corporate economy, and by deconstructing an industry's chain of capitalization, I would like to offer an overview over the current condition of power structures.

the three parts of the game \ / \ / \ / \ /

people's votes

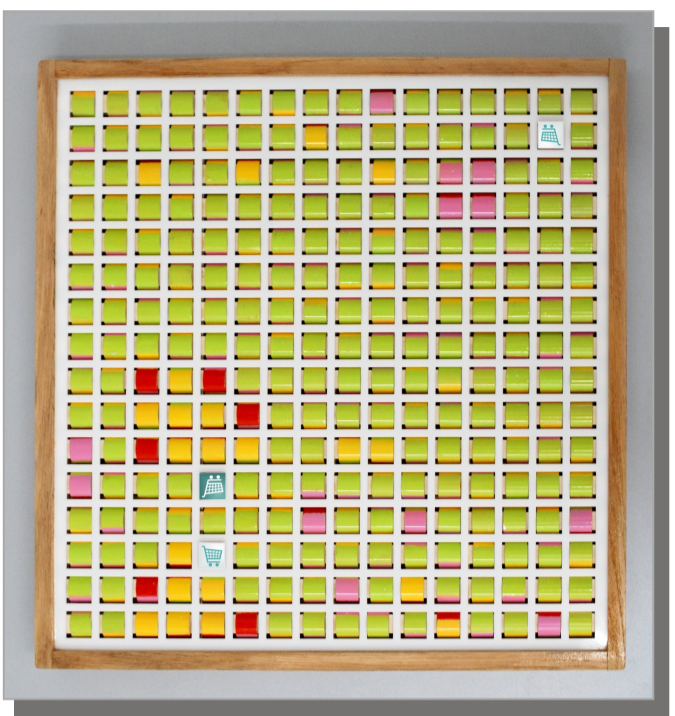


the board game

The board game itself is an abstract representation of an area set into grid formation, upon which a number of simple state changes can be imposed. Each block having four states, the interaction between these allows for conditions that either benefit or hinder the growth of a supermarket chain, and the associated industrial farming needed to sustain that.

The physicality of the object allows the players to set certain conditions, and therefore test different strategies that the supermarket business applies to the real world. While learning and applying the rules, the player gains a deeper understanding of the conflicting principles of the business sphere and those of the public interest.

By enticing the player to adapt to a set of behavioural limitations, which may in fact be far their own belief structure, the game subverts the individual into the mindset of the industrialist. Competition or rivalry between two players being enough to mask the actual effect of their actions upon the eco-system/urban landscape. As such an understanding of the games underlying principals is only achieved after the player realises the aims of mass industrialisation, and all micro economies replaced by large conglomerate machinations.

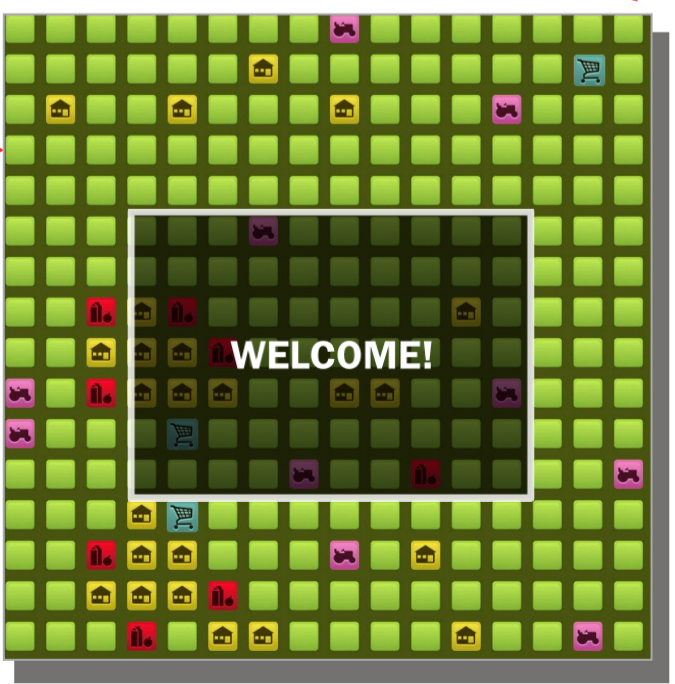


the online survey:

The survey functions as a poll of opinions; pro and against supermarket economy. It is a simple voting system where opinions are gradually compiled, showing how increasingly difficult it gets to affect the poll with the growing number of voters. It also harbours an awareness of how our daily habits in effect, support the supermarket business.

the simulation:

The simulation runs in a loop, reading the current state of the survey and using these opinions to determine the initial state of the city. It then runs the city blocks through the game rules until it reaches the state of an extreme scenario; when all the shops turn into supermarkets, or an area gets polluted by the large number of industrial farms, or all the citizens move away, the simulation starts over.



Would Homo Ludens Play Simulation

4

Games?

PZI Networked Media Master Thesis

"I think computer simulations can recalibrate your instincts",
Will Wright

This essay is intended to offer an insight in the development of simulations as a training and decision making tool, with a serious view of games as temporary alternatives for reality. On the other hand, it offers an overview of simulation games produced by the gaming industry, which are meant to be an entertaining experience. Homo Ludens, the forgotten, spontaneous gamer is divided here between the call for deconstruction and reconfiguration of our world and his initial interest in its construction. How really imaginative simulation games are? What do they provide and how are our actions limited by the possibilities offered? How can we overcome this?

I wish to discuss here the use of simulation games as an expert tool, drawing a line from the theories of ludic society (Huizinga, Nieuwenhuis) and following the development of games by the entertainment industry which we can "get good at", parallel to the development of critical games that try to "explain the world" through the subversion of simulations and construction of unexpected meanings.

What is a simulation?

A simulation stands for an imitation of a process or a structure which translates this process or structure into a system with a more comprehensive appearance. A simulation is a formal representation of specific properties or behaviours of the system in matter. Through simplified approximations and assumptions, a system is tested for fidelity or interactions and effects.^[201]

Simulations are used in modeling various systems, from natural phenomena, living organisms, to mechanical and electronic systems, digital technology, and at the same time - interactions between these systems. It is a necessary development tool in safety engineering, performance optimisation, testing, training, education...

The word "simulation" can bear a negative connotation, due to its connection with dissembling, seen as a false, deceiving representation of the truth (the truth which is known, and knowingly uttered). Simulacrum here plays a role as either a "corrected" or a "distorted" ^[216] image of reality. Further on, simulacrum becomes the truth, according to Baudrillard's interpretation of hyperreality.^[202]

The historical development of models and techniques for representation delivered a variety of tools to construct this appearance. Toys, mechanical simulations, and finally computer simulations help convey the simplified message and experience of any given system.

How have simulations evolved into a tool?

To understand the complexity of the world (of nature), we try to envisage the phenomena in their basic structure. Anything from a diagram to a detailed physical model or a synthetic environment could satisfy this simplified representation.

The General Systems theory ^[203] introduces the notion of universal principles within different systems, setting as its subject matter the identification and formulation of those principles which can be applied to systems in general.

Looking at systems as abstractions of relations between its elements, Ludwig von Bertalanffy is able to apply corresponding abstractions and conceptual models to different phenomena. He recognises a tendency towards a more comprehensive, transdisciplinary approach in sciences:

"While in the past science tried to explain observable phenomena by reducing them to an interplay of elementary units investigable independently of each other, conceptions appear in contemporary science that are concerned with what is somewhat vaguely termed 'wholeness', ... in short, 'systems' of various order not understandable by investigation of their respective parts in isolation."^[204]

Knowing one part of a system enables us to learn something about other parts. This makes it possible to create a direct connection between the world and its representations through models - simulations.

The use of models to explain the world and its parts draws its origins from the oldest (simulation) games. The game of chess can be seen as an early example of a military simulation, with two confronted teams and extensive strategy involved. The history of the development of military simulations is a history of the development of war itself. The Prussian "Kriegspiel" is another military simulation, considered by the contemporaries to be a training for war, rather than "just" a game. It appeared around 1812 and is credited by some with the Prussian victory in the Franco-Prussian War.^[205] After the industrial revolution, we have seen the development of the entertainment industry. Military simulations were since, a good source of inspiration for commercial games. Starting with the early 1980s, the U.S. army has used commercial games to improve the development of individual and collective skills.

Flight Simulators

Like the majority of technology, flight simulators were initially developed for the military. This was started during the First World War, with the pioneering employment of electro-mechanical devices. Flight simulators were designed to teach instrument flying and weapon operation. The first known mechanical simulator was a ground simulator, constructed to teach new pilots to fire a machine gun at a moving (flying) target^[12]. Link Trainer simulators were used to train new pilots during the Second World War, and in some air forces were still used until the early 1970s. They were constructed from a pneumatic motion platform with a generic replica cockpit mounted on it. In the 1940s, analog computers were used to solve the equations of flight, resulting in the first electronic simulators. The use of digital computers for flight simulation began in the 1960s.^[11]

Simulated flights allow for the experience in extreme, impractical and even dangerous situations, which a pilot would not safely be able to learn from in real life. Not only is the simulated environment safer and better controlled, but the costs of the training decrease significantly when a flight simulator is compared to maintenance, fuel and insurance costs of an actual aircraft.

Learning on a simulated plane proves to be more a concentrated and efficient form in most of the steps of the learning process. This is why simulations are used extensively in the aviation industry for the training of pilots and other flight crew in both civil and military aircraft.

One of the oldest home flight simulators, the Microsoft Flight Simulator was developed already in 1977 by Bruce Artwick. It was acquired by Microsoft in 1982 and released for IBM PC. This long time considered state-of art "daddy's game" is maybe the longest running PC game of all times.

The development of simulations went hand in hand with the development of the so-called virtual reality up until the mid-end 90s. The role of simulations in today's science, education and business is as substantial in explaining the current or historical processes as it is in the dynamics of decision making.

Who makes and who uses simulations?

Simulation is often used in education and training, clinical - medical research and innovations. Simulation in entertainment applies to the development of computer and video games, but also includes film (computer-generated imagery) and simulations of movement and immersion experience in theme park rides.

Simulation used in computer science is an attempt to model a real-life or a hypothetical situation and study how it operates. This goes as far as computers simulating computers (like in Alan Turing's universal machine, where the computer simulates the subject machine).^[14]

Furthermore, simulations are used in architecture and urban planning, to improve understanding potential developments of cities in response to various policy decisions or design solutions.

"Gaming simulation is a way to pretest the successfulness of the framework design because it facilitates the multiplicity of possible responses."^[32]

Social Simulation

In between computational research in the natural sciences, and the empirical approach of social sciences, lies social simulation which answers the need to experiment in a scientific way with complex human relations and interactions, with the complexity of society itself. The use of computer simulation to explore issues in the social sciences triggers more process oriented theories of society. This field explores the simulation of societies as complex non-linear systems.^[9]

It was not before the 1990s that social scientists realised how computer programs offer the possibility of expressing theories, which could then be simulated in the computer. By creating 'artificial' societies in this way, they were able to observe and study individuals and collective interactions.^[10] This led to a research in modelling decentralised systems like colonies of termites or traffic jams. It shows how the collective behaviour of many agents apparently coordinated by an 'invisible hand' actually stems from simple rules followed independently by every agent.^[102]

On the other side, a simulation can uncover and expose the 'emergence' of larger scale phenomena, when observing individual actions of elements in a system (like behavior patterns in societies, political domination in nation states or residential segregation in neighbourhoods...)^[101]

Societies are not "dissectable" in the way physics or biology can analyse the world. The behavior and complexity of the system is not contained in each element respectively. The image of the system cannot be recreated from the linear connections, simplifications and reductions of its parts. Society is more diverse and its elements are interconnected in more than one way. They affect and interact with each other on different levels and layers of complexity. One individual is an example for itself, it does not help for conclusions to be derived about others. The behaviour of society and its attributes emerge from these complex interactions of its "building" units. To describe and analyse such emergent phenomena, social science relies on terms and measurements inapplicable to its components.

Cybernetics

Applying the cybernetic theory, societies can be defined as systems built on feedback mechanisms and dynamic processes.^[206] Formulated by the scientists attending the Macy Conferences, ^[207] cybernetics ^[208] tries to look at the world as a system of complex and interrelated phenomena. It deals with regulation of systems, the idea of regulation through feedback, looking for principles underlying all systems. The ideas laid here relate to the biological work of Ludwig von Bertalanffy in General Systems Theory.

Cybernetics is applicable on both physical and social systems.

Agent-Based Model

Social simulations are used to overcome the limitations of conventional sociological data by building models of theories and testing them against the data. They make much lower demands on the data, while the models can truly reflect the complex nature of societies.

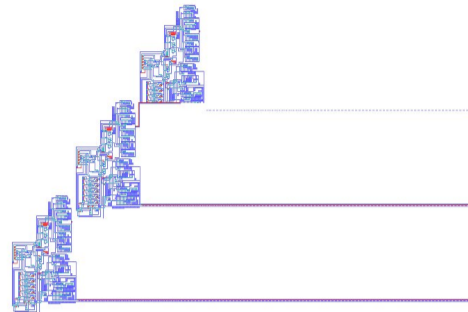
A multi-agent model consists of a number of software objects, the "agents" interacting within a virtual environment. These agents are programmed to act and react autonomously. They can have a one-to-one correspondence with the individuals. The models are also effective at demonstrating the emergence of social institutions from the actions of individual agents.^[209]

Many hundreds of multi-agent social simulation models have been designed and built, to examine a very wide range of social phenomena. When developing the model, it is important to be as precise as possible about the objective of the work. The research question and the model that is to be designed have to be defined precisely, with the question narrowed down to a very specific subject. The level of simplification should be followed until the point where the interesting characteristics of the phenomenon can be sacrificed. Designing a model is easier if there is already a body of theory to draw on. Every time the model is run, a unique "population" is generated, with the output of their activities and patterns of behaviour. These can then be compared with real-life

data or evidence.

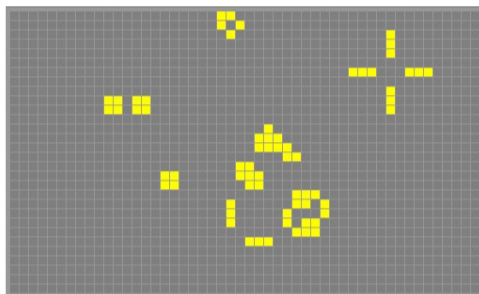
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The development of the agent based model starts with the Von Neumann's Universal Constructor. [210] This was a proposal for a theoretical self-replicating machine, following detailed instructions on how to fashion a copy of itself in a cellular automata environment. The further development in collaboration with Stanislaw Ulam led to the invention of cellular automata. The machine was developed in the 1940s, and documented in details in the book "Theory of Self-Reproducing Automata", published in 1966. [211]



The first implementation of von Neumann's self-reproducing universal constructor, from: <http://upload.wikimedia.org/wikipedia>

In 1970 John Conway constructed the Game of Life based on the application of simple rules on this virtual world built on the checkerboard grid. [212]



Game of Life, rendering from: <http://www.bitstorm.org/gameoflife/>

Later on, Craig Reynolds tried to model reality of lively biological agents ("artificial life") following these methods. He made a computer model in 1986, that simulated the coordinated motion of a bird flock. This model was based on three dimensional computational geometry. In 1996, Joshua M. Epstein and Robert Axtell developed the first large scale agent-based computational model, the Sugarscape. Sugarscape was constructed to simulate and explore the role of migration, pollution, sexual reproduction, combat and other social phenomena, even culture.

Due to the complexity of the represented systems, social simulations run into limitations as soon as the level of simplification needed to observe a phenomenon scales down the elements to the point when that blurs the difference in their behaviours. It is necessary to define the basic assumptions very clearly in order to create a useful simulation model. Every parameter has to be given a value. This means that, in case of very complex social processes where these parameters need to be estimated, the results might rely on unrealistic assumptions.

The other problem of simulation is the predictability of the outcome. Since the simulation is a man-made system, all the inputs are determined by the creator and therefore all possible outcomes limited by their imagination. It is not possible to find what we didn't make space to appear for.

Serious game

The term "serious" here stands for an approach to gaming that goes beyond amusement. "Serious games" have been designed and used for a long time for non-entertainment purposes. The potential of these games to address policy and management issues made them interesting for scholars and researchers. [4]

Serious games can be used in researching and training management and leadership challenges in the public sector. The Serious Game Initiative was founded in 2002 to help forge productive links between the electronic game industry and projects



"a gamer on the verge of an epic win...", the face shown in Jane McGonigal's talk, found here: <http://2.bp.blogspot.com>

involving the use of games in education, training, health, and public policy. [20]

"This is a gamer on the verge of an epic win, and this is the face that we need to see on the faces of millions of problem solvers...the face of someone who, against all odds, is on the verge of an epic win" [42]

In the case of Superstruct, the game is used to make people aware of problems society will face in 2019. Superstruct is made as a simulation of a very bad but challenging future, one where The Global Extinction Awareness System forecasts the extinction of the human race. The game therefore puts the player in the role of the "savior of the world". It is structured around news reports and Structured around news and played on forums, blogs, videos, wikis, and other online spaces. It was launched in 2008 and played actively for 6 weeks, after which the results were published in a form of simulated reports. The players were asked to think together about solutions for the fictional but ultimately convincing simulated burning problems.

"By playing the game, you'll help us chronicle the world of 2019, and imagine how we might solve the problems we'll face. inventing new ways to organize the human race and augment our collective human potential." [25]

The mechanism of serious games allows for more effective communication of the story, on different levels. The risk for the games to be mistaken for predictions of real-life situations and events however, lies more with the player. Also, they can seem to trivialize real-life major issues or popular subjects - both if taken too seriously or if not done well enough (without subject matter expertise).

"Serious games got to be used intelligently and the design aspect has to be intelligent as well. In real life, things don't go like clockwork." [24]

Serious game may be a simulation.

One of the first examples of the potential of a game to explain, allow the experience of, interpret and represent a system is the Landlord's game, by Lizzie Maggie [21]. This game is centered around a critique of land ownership and monopolies (both industrial and business), which bears the message in the rules to "prove how the application of the Single Tax would benefit everybody, by equalizing opportunities and raising wages". [22] The game structured the mechanisms of real-estate business around a simplified representation of a cities properties.

In the description of the New Babylon, Constant Nieuwenhuis introduced the idea of the "creative instinct", an instinct that emerges when material conditions meet a state of security and stability. He also identifies the impossibility to follow this instinct and realize a creative life within a

utilitarian society. Following these ideas, he asks: "Will man of the future be able to play his life?". With the development of simulation games, today's man is able to play his life or switch to another life online.

What is constructionism?

Educational methods that are based on the transposition of facts and concepts into different contexts which unveil and enhance their qualities, through displacement.

Constructivist theory of experiential learning was developed by the Swiss epistemologist Jean Piaget. [213] According to constructionism, we generate knowledge and meaning from our experiences. There is no "best way" to do or define something. Learners should arrive at their version of the truth. Those who play alike, think alike.

Constructionism is an approach to learning developed by Seymour Papert and his MIT colleagues. It takes up on constructivist ideas on education and is interesting to look at when speaking about development of games that have a (partially) educative role. Some of these games originate from similar intellectual circles and draw their philosophy directly on constructionist ideas. The difference from constructivism, as identified by constructionists, is based on the idea that constructionism stands for a process of understanding through construction, through engagement in constructing something external to ourselves. Following this constructionist approach, the goal is to "build a knowledge base", and this is done through the engagement of the learner in construction of the entity he is trying to understand. [27] This has been later taken up by computer game developers who created city building and other management games for players to experience this process of creation as educational.

In advocating for the constructionist instead of the instructionist approach to teaching, Seymour Papert stresses that learning is more important than teaching and questions the kinds of knowledge that are valued in education. He distinguishes a strong and weak constructionist approach and presents the later as an opinion that constructionism can be considered generally "the best way" to learn, because

"...it allows the full range of intellectual styles and preferences to each find a point of equilibrium" [28]

Because play has an important role in the cognitive development of our minds, teaching in a constructionist manner involves the creating of games and tools by the students to explain the subject matter. This knowledge is not the verbally expressed, formal knowledge. It is more an "applied" kind of knowledge, one that can be used to make, construct something.

Constructionism fights to find ways in which technology can enable students to actually use their knowledge, not just store it in their heads.

A game to explain the world

Games which simulate economic, political, governmental or other systems have become popular at the beginnings of the 20th century. In 1904 Lizzie Maggie patented the "Landlord's game" for the first time. This was a game that simulated the real-estate business in its most ruthless form. It was meant to show how rents enrich the landlords and at the same time impoverish the tenants. But it was also intended to introduce the mechanism of the Single Tax System and the benefits this Georgist idea would bring to everyone. This was done through the implementation of simple but intelligent rules that would manage wages, public treasury, railroad systems, mortgages, rent and property five times around "Mother Earth". One player would accumulate wealth on the account of the others losing.

"The game was used to prove the anti-social nature of monopoly." [26]

The game was played in its many variations among Quakers, single taxers and in colleges, long before, in the time of the Great Depression, Charles Darrow took the version of the game he came across to the Parker Brothers (who since produced it as "Monopoly").

Another famous example from around the same time is "The Game of Politics", created by Oswald Lord in 1935 and produced also by Parker Brothers. It is interesting to note that many of these games, designed and produced "at home" at the around the 1930s economic crisis made it to board gameclassics. Those games mostly emerged from the intention to explain and/or criticise current economical and political systems.

What makes a simulation into a game - what makes a game a simulation?

"Because it is so hard for people to think 50 or a 100 years out, if you give them a toy and they can experience these long term dynamics in just a few minutes ... we're using the game to re-map our intuition" [43]

The construction of a simulation for observations and testing involves selection of an aspect of the phenomenon or process to represent, with a research of the system, its characteristics and their interactions. A more realistic simulation allows for a more detailed insight into the phenomenon, but doesn't necessarily render it more useful. One of the virtues of simulations is the potential to engage the viewers in an experience that might give them more knowledge on the matter. This is what makes simulations attractive for learning and training. But not all simulations are successful in this.

How is a simulation made more engaging? Simply, by removing the "boring" parts. [131]

Adding game elements like rules, a goal, competition and winning scenarios into a simulation is a good starting point for a simulation game. The even more important part to take care of the "reality" this simulation actually offers. This brings us to the difference between "high" and "low" fidelity simulations. The first one offers an experience that is as close to the real experience as possible. This is important in training situations because it teaches exactly "how it would be". It would be dangerous to have trainees get a wrong or distorted image of their powers or effects on the environment. This does not, necessarily, give the best learning results. Because it is crucial to select what exactly is the learning result wanted and where in the simulation can learning be triggered. This means to focus on the key aspects of the simulated situation, emphasizing some and neglecting other parts. It proved to be more effective if

some aspects of a simulation are rendered to an extreme and some unrealistic outcomes of the game made possible for the players to remember and reflect upon the experience.

Simulation games open up space to move outside of our general frame of behavior; we are often more ready to try things in play, that we would not always try in real life. Making a simulation into a game switches off some of our inhibitions. [132]

Construction and management simulation games

Strategy games, both traditional and modern, may be viewed as simulations of abstracted decision-making. Players are supposed to develop and practice strategies rather than routines, in order to reach the goal. It is true that, more often than not, these games allow for development of deterministic strategies - which is a sign of them being imperfect programmes and not actual simulations.

Computer games usually tackle the most immediate stimulation of our senses, are oriented towards actuality and causality of an action. The complexity of human experience is often reduced to the more dramatic aspects of the game scenario, ignoring the engaging potential offered by different levels of intensity of feeling and reflexivity of thought. Serious games do work on the diversity of experience because their primary purpose is not entertainment. They are more focused on the communication of a message, acquisition of knowledge, training of certain behaviors, invoking certain reactions. [602]

Construction and management simulation games are a type of simulation game in which the players engage in building, expanding or managing fictional systems with economic constraints. This creates space for the end of the game due to "bankruptcy". The player's goal here is not to defeat an enemy, but to construct something.

Construction games can be played over a board or grid, but more complex simulations are usually worked out on the computer. Computer based construction games are most often single player games, where the player interacts with the rules of the programme on the computer. It is possible thought, to organize a competition or collaboration between more players who are building their worlds.

The player assumes an omnipresent role of a governor, city-mayor, urban planner, or other kind of expert-leader. This often draws a top-down or an isometric view of the territory, as well as different data systems, graphs and diagrams to illustrate the effects of their actions. The player needs to be able to switch functions, change views, zoom in and out, move around the territory, increase or decrease parameters and introduce new units into the simulation. Construction games have probably the most complicated interface of all computer games.

Reaching the goal is a long and gradual process. Players are often given a scenario or condition around which they build their "world". This helps to narrow down their goals and make the levels of success measurable or comparable. It is possible to have the goal shift to the next step every time it is reached. This can make the game never-ending.

City building simulation games: popular examples

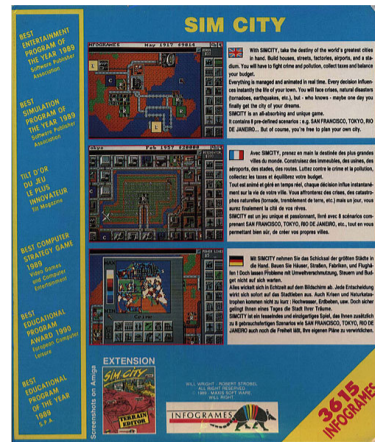
UTOPIA



UTOPIA: The box it came in and a screenshot of the game

Utopia is considered to be the first simulation game, released in 1982 by the Mattel Intellivision. It is a two-player game with the competing players creating two small societies they have to take care of. As the population grows, a player's score goes up. The game flow is interrupted by randomly generated troubles: pirates, rain and lack of resources. The player with the most points at the end wins.

SIM CITY

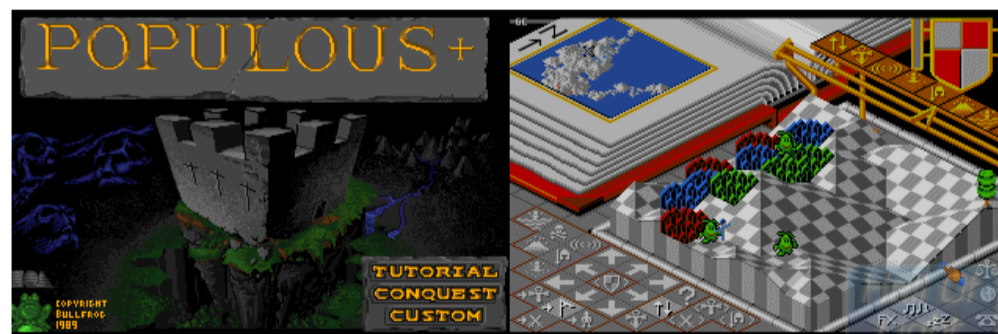


SIMCITY Classic, The box as released in 1989, and a screenshot of the game

SimCity was designed by Will Wright for Maxis and released in its first version in 1989. It established the genre of city building games. The player assumes the role of a mayor and urban planner, which he fulfills with the help of a click and point resource management interface. This interface allows for intuitive and direct interaction. Positive budget balance and citizen satisfaction are the indicators of success, which can lead to the eventual victory (reaching of a desired level of development, achieving of a certain task in a scenario). The player is set against the programme; the game engine built on a variety of ways of modeling dynamic systems, including linear, and cellular automata. The properties and rules for the elements were not only determined by an overall equation, but also interact with the neighbouring elements to a large extent. SimCity made simulation games really popular, especially because it made the interface more user friendly, redesigning what had previously been presented mainly as numbers.

"The challenge of playing a system simulation game is to figure out how the system works and take control of it. Then, as master of the system, you are free to use the tools to create and control an unlimited number of systems - cities - within the framework and limits provided by the rules" [23]

POPULOUS

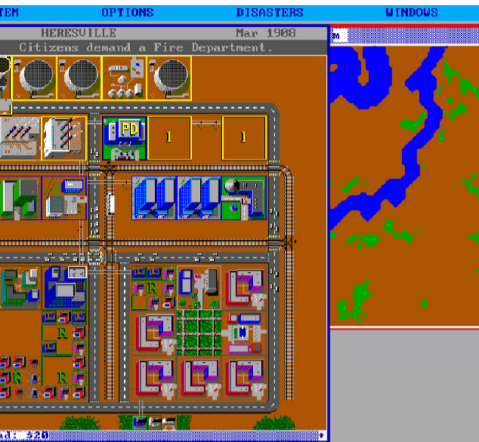


POPULOUS, screenshot

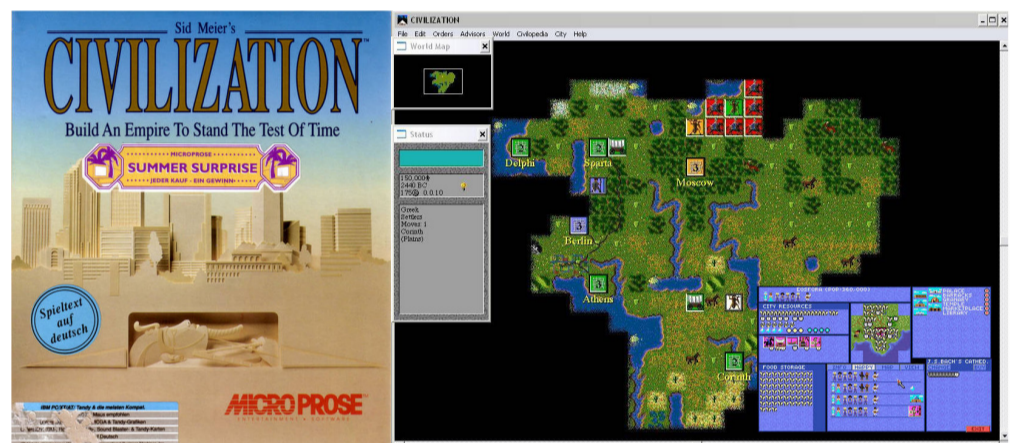
Populous is a single-player God game, developed by Peter Molyneux for Bullfrog in 1989. Players in the game create a civilization of followers who build fortifications under the player's directions. They can also start a war against a competing God. The game allows players some, but not full control over the sprites; [98] they can manipulate land and use spells to direct their followers' actions, but can not use direct orders on them.

CIVILIZATION

When it was first released in 1991, Civilization covered well two genres of simulation games: historical simulations and nation-building games. It was developed by Sid Meier for MicroProse and it allowed players to build a nation from the dawn of civilization into the space age, practicing diplomacy, developing new technologies and waging war along the way.



Civilization can also be categorized as a strategy simulation game, but it has many elements that make its categorization harder. It has been developed as a sequel, with Civilization IV being the last one.



CIVILIZATION, The box as released in 1991 and a screenshot of the game

All these simulations have a common approach to the environments they are creating: to trigger and support growth. They also mostly impose an internal order that is closer to totalitarian than democratic. The ideology of growth is in accordance with the capitalist approach to resources, working on destabilizing self-sufficient forms (Boredom scenario in SimCity) to generate profit from the disbalance.

down a veil of deep pessimism on the people. He went through alternative historical documentation looking for "what men of the time thought they were", [481] to discover the mood of escapism into dream and fantasy caused by the dissatisfaction with the world. There, he identified play as an alternative to reality and at the same time, as a way to transform reality.

Johan Huizinga published his work Homo Ludens: A Study of the Play Element in Culture in 1938. He investigated the ludic potential to ennoble society. His intention was to define "play" and its manifestations in all spheres of culture, and the hypothesis that play is a formative element of all culture. He recognized two ways that play functions - as a contest for something and a representation of something. On the other side, pseudo-play led into the decadence of play, breaking down the distinction between play and seriousness.

Johan Huizinga was a historian interested primarily in ways of understanding development of culture. His viewpoint on the ways play can represent and re-interpret reality and the understanding that "Imagination is indispensable in interpreting the past" [482] set the path for thinking about the relation of play and simulations.

Picking up on the idea of the necessity for play, Constant Nieuwenhuis saw the ludic society as an opposition to the current (at the time and arguably still) utilitarian society; built around the exploitation of the human capacity to work. He severely criticised freedom dependant on productivity, advocating a society where people would be only focused on creativity. He describes Homo Ludens in his process of creation and re-creation, transforming his surroundings according to his new needs and exploring his own creation. His new surrounding is a flexible network of sectors, supporting social mobility and infinite complexity.

"New Babylon is a temporary, constantly remodelled living area" [461]

He goes on to describe a social condition much like the one we find in today's games avatars - in a constant connection to his "peers" and all his actions made public, the surroundings are at all times and on all levels shared with the others. Homo Ludens is moving around this space without a goal, playing with everything from building to telecommunication. There is no competition in his world because competition leads to a waste of creative energy. He might make and play simulation games, but he would for sure not win.

If we think of simulation games as they are today, it is very unlikely that Homo Ludens would be interested in playing them because they are strongly oriented towards teaching the players to navigate in an existing order. Homo Ludens would make different simulation games.

Would Homo Ludens play simulation games?

"New Babylon is a social space with moveable articulations: the playground of Homo Ludens." [46]

First notions of appreciating the value of play in human history and social relations, can be found with Heraclitus and Plato. Later on, mentioned by Hegel, Marx, Nietzsche, Heidegger... [48] and Schiller:

"Man plays only when he is in the full sense of the word man, and he is only wholly man when he plays." [483]

Interested in the dark climate of the Middle Ages, Johan Huizinga came to a conclusion that the Christian teachings of that time laid

The potential of simulations in teaching and training: what are the gamers getting good at?

Arguing for a more constructive view on gaming than the one usually exhibited in adult circles (opinions like: "children spend too much time playing online games; this is a waste of time and they should work for school"), Jane McGonigal advises a number of 21 million hours we should spend playing online games every week (instead of 3, that we do now) if we want to solve problems of poverty, climate change etc. Her arguments are based on a research in gaming history and contemporary educational standards. Citing the case of a civilisation that managed to survive through a 18 years hunger, simply by playing dice games - and eating every second day, she defends an opinion that what they have actually mastered is "togetherness". Her theory is based on the premise that, since we do not seem to solve our problems for the sake of ourselves, and we are very good at playing games and solving game problems, we should make such a structure of games that would help us solve real problems. She identifies four things that gamers are getting good at: urgent optimism, social fabric (collaboration), blissful productivity and the desire for an epic story - which makes them into "super empowered hopeful individuals" [421]

Similar overview of gamers' skills is offered by Michael Macedonia:

. Multiprocessing, the ability to perform several tasks (such as listen to music, talk on a cell phone, and use the computer) concurrently;

. Attention span variation in a manner similar to senior executives exhibiting fast context switching;

. Information navigation changes that define literacy not only as text but also as images and multimedia;

. Shift in focus of learning from passive listening to discovery-based experiential and example-based learning;

. Shift in type of reasoning from deductive and abstract to the concrete;

. Intelligence organized in easily accessible databases;

. Community of practice emerging from sharing tasks involving both tacit and explicit knowledge over a substantial period of time [47]

Joost Raessens also talks about the improvement of certain skills when looking at children who grew up with games:

"...the children of chaos are able to deal with it, and they picked up necessary cognitive skills to survive in today's world partly while playing computer games." [604]

Even if it is all an exaggeration, this positive approach to gaming is refreshing and stimulative. Education is changing, values are changing, the speed of the world is changing and there is nothing more conservative than to try to decide when it is the best time to stop. The decentralised society reinvents its culture with all available tools. All this is to encourage us to dive into the world of computer games.

The potential of simulations in decision making

"Gianni is shaking his head. "Backward chaining or forward chaining, it is still an expert system, my friend. Your companies need no human beings, and this is a good thing, but they must not direct activities of human beings, either. If they do, you have just enslaved people to an abstract machine, as dictators have throughout history." [30]

Decision making in a one-person scenario is not always an easy task. Decision making in a collective or a group of individuals and forces with different interests can be a nightmare. With diversity of interests coming to the stage, the possibility to back attitudes

and opinions with simulations of the decision outcomes is a convincing factor for consideration.

An interesting and extreme example of the early use of simulations in decision making is the project CyberSyn (Cybernetic Synergy), a governmental remote control system, developed in the 1970s by Stafford Beer for the Chilean president Salvador Allende. Allende wanted to have a tool for a centralised economy management. The Operations room was designed to facilitate decision making. Based on daily data input from factories, with short-term predictions, the government would manage production from the swivel chairs equipped with buttons which controlled screens with data projections and other status information. [217]

In recent years, the use of simulations in business and other decision making has increased dramatically due to accessibility of ever-improved software on increasingly powerful personal computers which can support renderings of complex simulations.

Urban planning is a projection of spatial distribution of activities and designated densities within the physical structure. Historically, this has been done by experts zoning down the cities in their two-dimensional representation. The number of people involved and the complexity of zones has increased significantly but the planning is still done from the position of the "all seeing eye".

Architecture is, besides design and construction of habitable physical environments also a social system of interacting individuals working toward collective decisions about our physical environment. [34]

Up until now, the all encompassing idea of the inclusion of citizens in the planning processes and decision making, has been limited to certain predetermined participatory forms and fields designed by the ones who were once called "experts". This change is not a qualitative one but more a quantitative shift where we now have more minds included in the system, therefore less responsibility per mind, but not necessarily more space for different ideas.

One of the good ways to include more actors in the process of design and decision making is through a simulation game. The potential of gaming is its ability to consider a range of solutions with minimum risk or maximum gain and to explore the consequences of these unknown future decision. The communication through gaming proves useful in clarifying and resolving conflicts in interests and value systems.

Much as statistics can be tweaked to prove certain facts, simulations can be tuned in favor of certain scenarios.

Computer games as a form of participatory media

"The so called 'game culture' is becoming a vast cultural territory spreading from its pop origins to the growing academic studies" [65]

The "modernist culture of calculation", with the player competing with the computer programme, was replaced by the "postmodernist culture of simulation", for the player to navigate the surface of the game, with his activities restricted by the complexity of the programme. [60]

The participatory side of the popular culture is not exclusively linked to the development of computer games. It was present as a technical possibility in all popular media, but has never took on a development (e.g. Radio as a Means of Communication, Bertolt Brecht, a talk on transformation of radio from a distribution to a communication device 1932). Computer games as part of participatory culture work on the line of presenting themselves as a refurbished version, an improved form of the old new-media (radio, television).

Computer games can be participatory but

are not necessarily so. They often stay in the domain of simple entertainment and do not make full use of their interactive and participatory potential. According to Joost Raessens, participation exists through the domains of interpretation (whose more specific form is deconstruction, uncovering the underlying ideological constructions), reconfiguration (actualisation of a virtually available potential) and construction (addition of new game elements or modifying and making whole games). He offers a political-ideological reading of computer games in which he questions the access to the media, its cultural consequences, status of different forms of media culture and finally distinguishes between "culture participation" and "participatory culture". The top down versus bottom up access to the games is determined by the ability of the players to participate in the creation and (re)use of the medium. With this in mind, the question is whether this access will lead to a general homogenisation of society or an explosion of views in the chaos of today's media. It is thought clear that reality is not a single one - plurality of perspectives is reflected in the idea that there is no superior story, reality is just one way the world works.

Finally, culture participation understands the unconditional participation in the surrounding culture. Participatory culture, on the other side, make special demands concerning the interpretation, reconfiguration and construction of computer games. [603]

Besides the possibility to participate that computer games offer, something from the one-way communication of powerful media is present in the potential for manipulation of the users to buy into the computer games culture. It is important to note the difference between selecting and creating, where more often than not, the act of choosing from a number of predefined options is confused with the act of creating your own.

"Computer games are not just a game, never just a business strategy for maximising profit, but always also a battlefield where the possibility to realize specific, bottom-up, heterogeneous forms of participatory media culture is at stake." [601]

Extreme simulations

"Markets afford their participants the illusion of free will, my friend. You will find that human beings do not like being forced into doing something, even if it is in their best interests. Of necessity, a command economy must be coercive - it does, after all, command." [31]

Golden Farmers

Besides being a proof of the reality of virtual economy, Golden Farmers are a huge and successful branch of the game industry. In China and some other developing countries, golden farmers have full-time employment. It is not a legal business but it is also not made illegal. The benefit the governments see in this business is that it can reduce unemployment and keep young men in front of computers, away from the street crime. This political consequence of the economic model keep it in the grey zone without clear regulations against it. Estimated by their network distribution, it is a billion dollar industry.

Gamers mostly in their twenties, work on building powerful avatars which they can sell. Players who are willing to give a substantial sum of money in exchange for playing hours buy these avatars from their employers. Golden farms offer anything from virtual currencies to "gaming enhancement services".

"It's quite similar to other corporate jobs - you are allowed some small room of creativity, but your work is mostly routine for the sake of efficiency" [80]

In Australia and Korea, virtual currency is subject to taxation. Same has been considered in the US, while in China it is forbidden to use virtual currency in exchange for real world goods, but not vice versa.

Living on the border of real and virtual, gold farmers are playing with the danger to run into a mad crowd of real gamers looking to "kill Chinese avatars". The gamers are aware that their avatars cannot support them for long. But the boundary between work and fun still exists. When they're gaming to get virtual goods, they don't enjoy the game the same way as when they are playing for themselves. [801]

Modification and subversion of simulation games

"Modded" games in which modifications are made with the intention to re-interpret the content or to add elements and functionalities a game did not originally have, reveal or criticise a feature in the game or use the game to reveal or criticise something in the real world.

"A patch or a skin, mod... is an add-on to an existing game engine that alters the original code or state of a computer game. A patch can range from a simple repair of an error in the original game, to elaborate manipulation and customization of graphics, sound, game play, architecture or other attributes of the original computer game." [61]

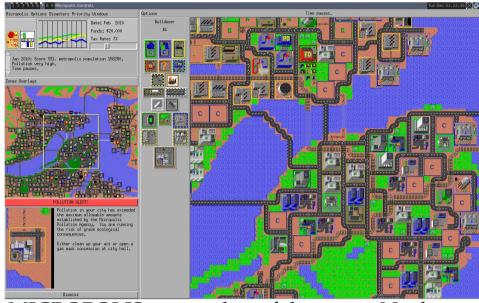
Whether this is done as an act of appropriation of the game, resistance to the gaming industry or an attempt to improve the game, a modification of the source code demands deeper knowledge of programming and of course - the availability of the code. In this way, the gamers can exercise the power to co-create in the virtual world, claiming ownership of their toys.

Alan Kay's criticism of SimCity: "My main complaint about this game has always been the rigidity, and sometimes stupidity, of its assumptions (counter crime with more police stations) and the opaqueness of its mechanism (children can't find out what its actual assumptions are, see what they look like, or change them to try other systems dynamics). So I have used SimCity as an example of an anti-ed environment despite all the awards it has won. It's kind of an air-guitar environment." [361] was well received by Don Hopkins, who worked on the SimCity code for many years already.

Micropolis

Micropolis was the original working title of the SimCity simulation game. About 1990, Sim City code was ported to the Unix platform about 1990 by Don Hopkins. The One Laptop Per Child project was launched in 2005 and a version of this code was included in the project. The current GPL open source code version of OLPC SimCity was released in 2008. [36] It resembles the first version of SimCity but is much better documented. According to this documentation [35], the city here is built out of three zones: residential, commercial and industrial; these zones symbolise population, production and commerce. These three zones also represent three main activities - living and working (producing and trading). There is a simulation of an internal market - commercial and external market - industrial. Both of them are growing only if there is enough land and enough labour available - they depend on the size of their zones as well as the size of residential zones. Commercial growth increased almost exponentially with the growth of population. Industrial zones improve the job market but also create pollution; one of the main objectives of the planner is to find a way how to distribute and separate zones. Traffic between the zones is simulated with the "Trip Generation" - a process to generate the number of trips depending on the population (majority of traffic is people commuting to work, additional for shopping, recreation etc). There are tests the simulator is programmed to run on connections between the zones. These tests evaluate the quality of the network and the capacity with the virtual traffic. After setting up the basics of the city, the player has to balance the budget between the costs (of public departments) and revenues (from the taxes); he or she

also has to keep pollution (generated directly as a consequence of building) and crime (influenced by the population density) on reasonable levels. The land value is based on terrain, accessibility, pollution and distance to downtown.



MICROPOLIS: screenshot of the game; Nuclear Meltdown, Boston 2010

In 2008, Don Hopkins has started the Micropolis Eduverse project, with the intention to develop an open source, internationalised, web based version of Micropolis, running on a server (C++, Turbogears, Python), playing in the browser (OpenLaszlo/Flash). One of the main things Micropolis Online tries to bring in the game design are modular components. These components can then be plugged in together to make other games.

Don Hopkins stresses that the goals of Micropolis project are to make a fun game, based on the original source code and focused on constructionist education. With the approach that allows multiplayer collaboration (sharing a budget instead of competition, voting on decisions on larger investments...), the project is meant to support collaboration, teach democracy, language and personal communication skills.

Innocent modifications

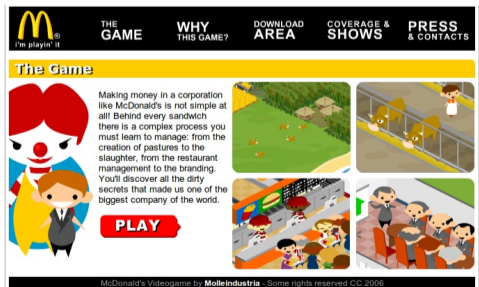
After the release of SimCopter in November 1996, Maxis and Will Wright have discovered an unexpected behavior of the programme. One of the programmers working on the game has secretly injected controversial code that would make the (male) characters kiss on certain occasions. The Gay Sims wearing swim trunks would "activate" on birth dates of the programmer, his boyfriend and also on Friday the 13th. This was only noticed after 78000 copies of the game were out in the air.

Jacques Servin was fired and later received a payment from the company RTMark which he established himself. He is also known as Andy Bichlbaum of the Yes Men. [93]

Molleindustria [40]

"Radical games against the dictatorship of entertainment"

Aiming strongly at criticising the entertainment industry, Molleindustria has produced a large number of small, short games about burning social issues. This is a movement that criticises exactly the industry where it comes from, the expensive entertainment habits of the developed world. Molleindustria collective are authors of games as "Operation Pedopriest", "McDonald's videogame", "faith Fighter", "Oligarchy"...



McDONALD'S: screenshot of the game;

Newsgaming [41]

"Simulation meets political cartoons"

A team of game designer that try to boil down thinking about the world in amusing but critical games. They use simulations to analyse, debate and comment major international news.

Conclusions

"To dissimulate is to feign not to have what one has. To simulate is to feign to have what one hasn't" [214]

It is possible to learn, and maybe even evolve (in a more social and habitual sense then biologically) through playing simulation games. Especially games designed to trigger these improvements. The games created by the Institute for the Future, like "World Without Oil" or "Urgent Evoke - A crash course in changing the world" are constructive, educational and essentially positive about our capabilities to improve. They were developed, at least to a certain extent, with the intention to empower people to reach any future scenario that is possible to imagine.

The question that this last sentence raises is: who are going to be the ones to imagine future scenarios and who is going to passively receive these tools? Jane McGonigal advocates that the practice of playing World of Warcraft does improve some of the gamers capabilities. But is not only shy and soon-to-be empowered teenagers that are playing WoW - they are often playing against the Golden Farmers' avatars.

The gaming reality becomes in this way more real. The two main capacities of simulations - prediction and production of reality, are used here similar to the way Baudrillard described "present-day simulators"; as the attempt to force the real to coincide with the simulated. The hyperreality allows for overcoming of some real-life constraints. Following the development of the image as identified by Baudrillard, from the basic reflection of reality - a "good representation", through perversion of reality and masking of its absence, we arrive as the current reigning scheme of reality - the simulation. The transition of the method applied to reality changes from mirroring representation (a double), through abstraction (a model) to production (a simulation). Baudrillard sees this method as deceiving

"The transition from signs that dissimulate something to signs which dissimulate that there is nothing, marks the decisive turning point." [215]

It can be argued that, due to the inexperience with this "reigning scheme" - the time of the simulation, Baudrillard's view is more focused on the loss of reality. This concern with the shift of focus and moral to the simulated, imaginary or hyperreal worlds can be seen as a consequence of the wish to identify something that is only emerging. As we can see from the examples of game designers and educators, this "emerging phenomenon" has served for more than just manipulation. The shift is not as radical or deteriorating as expected. The training potential of simulation games has brought up a generation that can coexist in many worlds.

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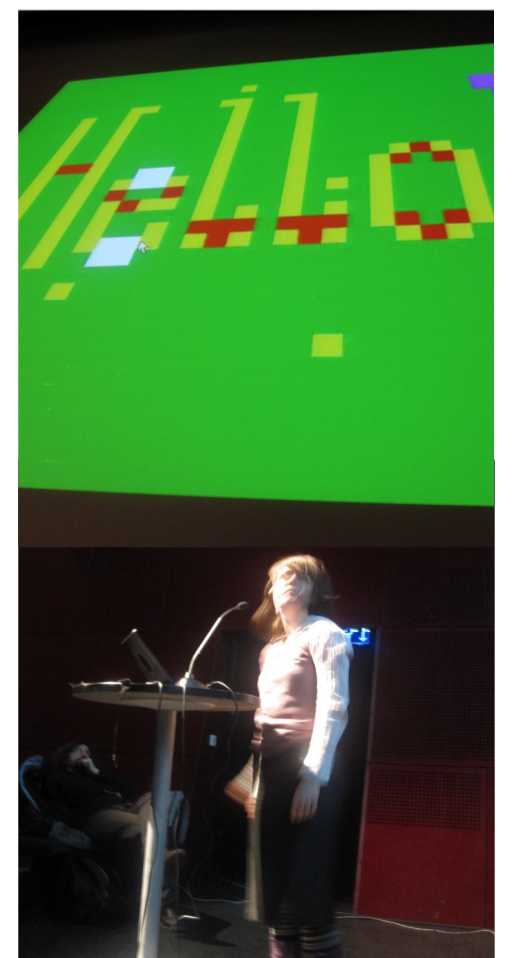
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////////\\\\\\\\\\\ Presentation @Pixelache

Friday, March 26th

Media Design - Networked Media graduation projects presented at Pixelache, Helsinki



Can we vote for food? on food production and the power structures involved

10



The food industry and its structure can be used as a model for the hierarchical system of power and control usually found in political and public media structures. Its' effect on society is the same one as any other consumer industry - deteriorating values and degenerating needs to meet the surplus in production. Driven by interests of multinational corporations, it is an alternative power structure to the political and governmental systems, often collaborating with more powerful ones to the disadvantage of the rest.

The concern about the food we eat comes from a fear of consequences that the use of chemicals, and unnatural processes in food production might have on us. The base for this fear is the veil between us and the origin of the bread we eat. It always takes a long term demand for more transparency and increase in standards to change the habits in the food factory. The dictatorship of corporate interests threatens to seal off most of the variety in food species under patents of food's DNA.

The technology and systems for organic food production do not unveil their processes to the larger audience as well. It is as hard to trace back the origin and reverse engineer the production process. Although it would probably not be protected by patents, organic food does not allow for "tapping" in the industry's "broadcasting" system either, having consumers only as passive receivers again. How much do we know about organic food apart from that "it's healthy"? Is it the only alternative to the corporate dictatorship of food magnates?

The point of departure in writing this essay is the study of the structures of power. I am using the food industry as a paradigm of the political and economical interests involved in these structures. I will explain further the food market chain and the parties involved. Mentioning a few words about democracy should clear my sceptical position towards this political order, describing how it evolved through the introduction of representation.

The supermarket

Supermarkets today are the main source of groceries for the average consumer in developed countries. Packed with varieties of the same type of product, they tend to offer everything from food to household stuffs under one large roof. Some have an organic chain of products next to several non-organic brands, to satisfy more careful shoppers. What is "the way of the food" we eat today, how can it reach the buyer and for what price?

"The way we eat has changed more in the last 50 years than in the previous 10,000, but the image that is used to sell the food are the picket fence, the silo, the 1930s farmhouse and green grass...The reality is - it's not a farm, it's a factory." Food Inc. 2008 [2]

The makers of the movie "Food Inc." present the idea of food consumption as a voting poll. The fact is that both the food and the marketing industry have convinced consumers to feel only as recipients of whatever they have put out for them to consume. In order to claim back the power (and responsibility) of the people (consumers) changes on both sides need to happen. But we cannot fully control our nutrition. We cannot participate further than choosing for what is already offered.

The order of democracy

From equality among people or a qualified group of people (freemen, property owners, the wise....) through different interpretations of "democratic" and "ruling" (people rule over people, people choose who rules, rulers choose people....) Raymond Williams presents a development of the notion of the word "democracy" in his book *Keywords*. [30]

In relation to public space seen as the public domain, or public sphere, John Parkinson introduces three types of democracy, referring to Goodin's definition by which "Democracy boils down to making social outcomes systematically responsive to the settled preferences of all affected parties... Whether public space matters to democracy depends on what kind of democrat we are talking about" [3] Parkinson distinguishes:

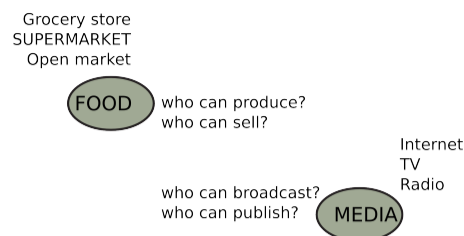
- participatory model (face to face; takes place at an agora)
- representative (one to many; requires enclosed assemblies, takes place in a parliament)
- pluralist (many to many more; requires more open access by citizens to their representatives, takes place in a physical space where citizens can express their symbolic dominance) [4]

Raymond Williams later quotes Bentham who makes "general sense of democracy as rule by the majority of the people, and then distinguished between 'direct democracy' and 'representative democracy', recommending the latter because it provided continuity and could be extended to large societies." [5]

Democracy was saved from its revolutionary connotation towards the end of the 19th century with the broader introduction of the representative model. The development of representative democracy in favour of the participatory or direct model helped in strengthening the hierarchical power relations, decentralizing the system on a larger scale but preserving the centralized model the building unit of society. "...Democracy is said to have been 'extended' stage by stage, where what is meant is clearly the right to vote for representatives rather than the old (and until the eC19 normal English) sense of popular power." [6] Williams concludes that it would be easier to stand for democracy if it stayed an unfavourable or factional term, rather than becoming a perspective that is to be found in nearly all political movements. This leads to innumerable distortions of the initial idea behind democracy, reducing the concepts of election, representation and mandate to formalities and the concept of popular power or government in the popular interest, to a slogan covering the rule of a bureaucracy or oligarchy.

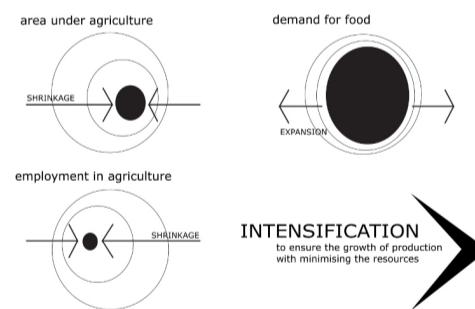
The bureaucratic system behind the centralised food industry

Who is the one today who can produce food? Who can afford to have their products distributed to the supermarkets?



In the process of deconstruction and demystification of the World's agricultural system, the artist collective Bureau d'Etudes drew a line from the Ford company's business administration that was inspired by Prussian military organisation and that in return inspired the Ludendorff's Economical Plan for the War (Kriegswirtschaftsplan) and Gosplan strategic plans in USSR, respectively; American administration was the first to, during the New Deal, apply Fordist planning on agriculture. This soon resulted in the country becoming the world's main producer and exporter of wheat. Shortly after, the heavy surplus in wheat production was to be compensated by increasing the bread eating habits of foreign consumers. Finally in 1954, the surplus in production could be given out as food aid meant for fighting hunger in the world in the interest of the external politics of the United States. Similar things are happening today with soya and corn crops, especially with the use of corn syrup in the majority of the nutritional products in USA. [7]

Intensification, as this shift in agricultural practice is known, is characterised by an increase in water abstraction, area under cultivation and use of heavy machinery; extended periods of cultivation and high inputs of man-made fertilisers and pesticides; and a reduction in the number of people employed. [1] The system of intensive production manages to produce a lot of food on a small amount of land at a very affordable price.



About 500 multinational corporations control the whole food industry; they exercise power over hundreds of thousands of employees and control the process from the seed to the supermarket. Centred around maximising profit and minimising taxes, these companies are built on hierarchies of power where economic interests are placed before social and ecological necessity.

"McDonald's is the largest purchaser of ground beef in the USA and when they want their hamburgers to taste everywhere exactly the same, they change how ground beef is produced" [8]

Unlike the third world and developing countries, a significant part of the budget of rich countries is intended each year to subsidize the production of certain foodstuffs. Initially established to help national economies overcome the Great Depression and post World War II food shortage, these subsidizing policies have significantly influenced the disbalance of production capacities and the profitability of food industries worldwide.

The government policy in the USA allows for production of corn below the costs of production. Farmers are payed to overproduce, driven by the large multinational

interests. In Europe, the subsidized export of food contributes with ~2% to the gross domestic product but it makes agriculture, in return, unprofitable in developing countries, where the price of the locally produced food amounts to even three times more than the price of a European product. Here is what the makers of the movie "We Feed The World" present as a fact:

"Even the conservative calculations of the World Bank assume that agricultural subsidies in the rich nations deprive farmers in poor countries of a market of at least 30 billion dollars. At the same time, the World Bank states that - as absurd as this sounds at first - if the subsidies were to be abolished this would benefit the agricultural sector to the tune of 250 billion dollars, albeit with a more just distribution: countries with low and medium incomes would profit the most at around 150 billion dollars." [9]

On the other side, the food business in the rich countries is characterized by a growing scale of companies that control an increasing percentage of the food market. These companies keep farmers under control with loans and conditioning in investments. The farmers have in fact very little say in their own business and are like slaves to these companies. [21]

The European regulations

"Deciding how much money the EU will spend and how it will be spent is a democratic process." [13]

Since the end of the Second World War, the development of agriculture in the EU has been driven by the pursuit of ever-higher levels of productivity and efficiency. The driving force behind this development has been the agricultural policies of the EU. The CAP (Common Agricultural Policy) was introduced in the early 1960s to provide financial support to farmers and the wider rural community. [1]

The EU farm policy is a very complicated system, "a deep, broad forest for which there is no complete map" [10], as described once by the Commissioner Mariann Fischer Boel. The common agricultural policy (CAP) has undergone extensive reforms over the last two decades - most recently in 2003 when the EU abolished production-based farm aid. The new scheme still supports farmers incomes but allows them more freedom to grow what the market wants. Food production today accounts for around 55 billion Euros a year, or 40 percent of the EU's budget. The EU farming sector employs 5 percent of the EU working population. [12]

The EU food safety policy strategy legislates the safety of food and animal feed. It applies the same high standards across the EU. The Commission enforces EU feed and food law by checking its implementation into national laws of all EU countries, carrying out inspections in the EU and outside. [11]

The most recent EU agricultural policies have lead to a shutting down of a large number of smaller farms and the transition of the whole food production to ever larger farms (coupled with the trend of outsourcing the production that isn't profitable under EU standards to other continents). On the other side lays the pressure coming from urban planning to turn all constructible ground into urban zones. Following this shift, the EU started subsidizing a small number of farms to maintain bio-organic growth, although to a far too small degree, according to the opinion of environmental and consumer protection organisations. [14]

The borders of rules

11

The border of Europe does not encompass a fully independent ecosystem; the regulations for environmental protection apply only on the inside but are nevertheless affected by the "dirty" and unregulated technology from its surroundings.

The EU had in place a moratorium on the import of genetically modified seeds until 2004. Since then labelling of all foods containing GM constituents is compulsory. And since then genetic engineering has been increasingly infiltrating agriculture in new member and admission states, such as Bulgaria, Romania and Croatia. [15]

When domestic production of feed stuffs is insufficient or unprofitable following such EU standards, it can easily be outsourced outside their borders, to its neighbouring countries or to other continents. Because of the lack of regulation on labeling secondary products produced from animals which have consumed GM feed stuff, this kind of food can then be imported and put on the market. Austria is one of the most resistant countries to the GM food rush. It has no GM food in the supermarket. This however does not count for secondary products. About 60% of the Austrian yearly import of soya is genetically modified. [23]

Apart from the liberal standards for food growing in the third world countries, cheap labor is also a motivating factor for outsourcing production. Which stays profitable even after the transportation costs of lengthy trips the food has to make before it reaches its final destination. Even on a more local scale, a classic Viennese breakfast with all the ingredients sourced in Austria travels at least 5000km on the road. And this is why

"In 2002 transport stream analysis of the Austrian foodstuff value creation chain revealed that the road from field to table is becoming ever longer. In the last 30 years the transport output of the chain as a whole has risen by 125%." [16]

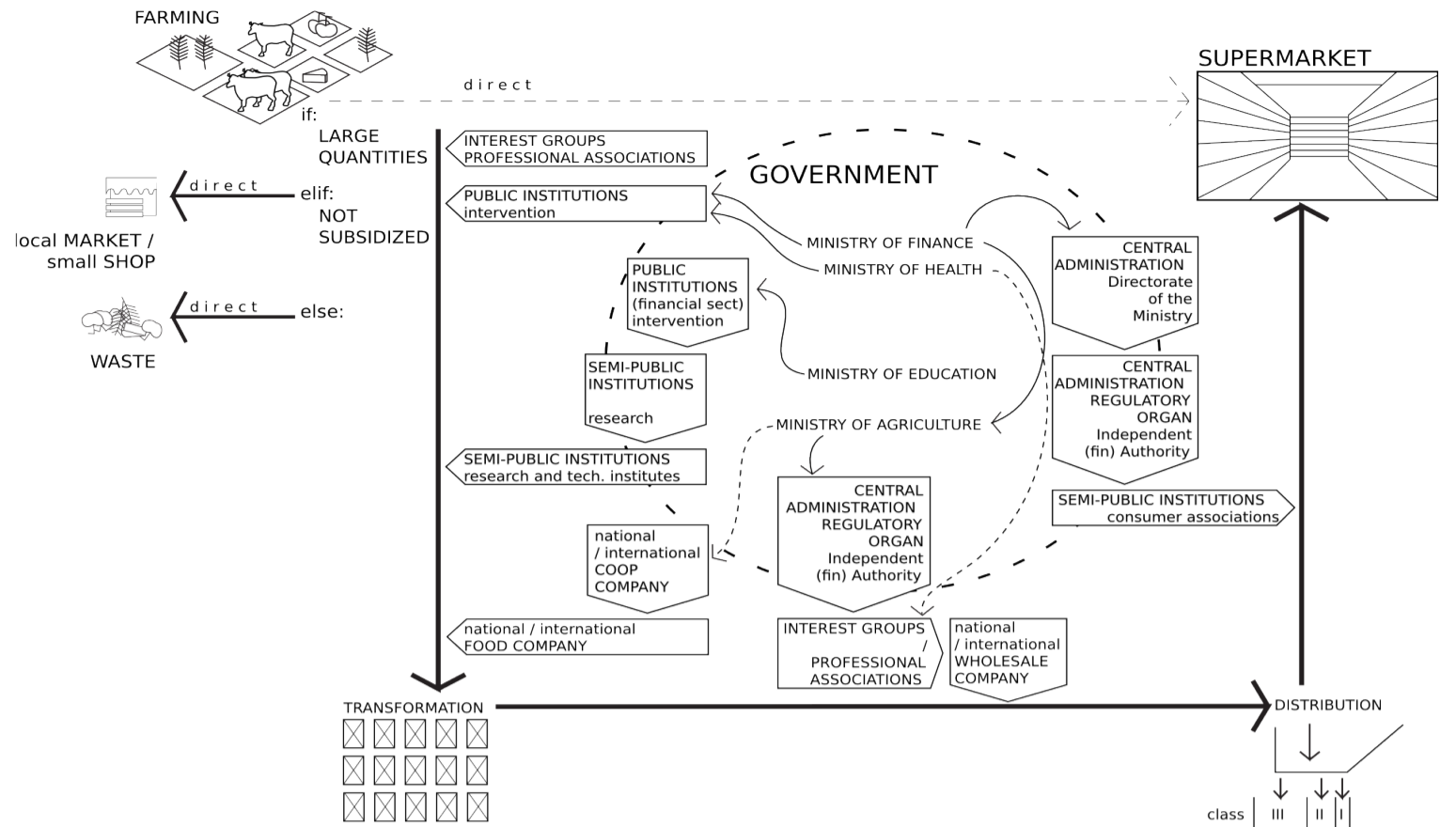
"...wide-scale cultivation of genetically modified soya in countries such as Argentina is having huge negative impacts: use of crop sprays has risen drastically, forests are being felled and the nutritional situation of the inhabitants has by and large deteriorated dramatically." [17]

GM knows no borders

Genetically modified plants are grown today on more than 60 million hectares worldwide, nearly 90% of the area being in North and South America, with 80% in the US, Argentina and Brazil. The United States alone plant over 50% of the world's GM crops. At the same time, 3% or less of crop land in India and China is given to GM crops. The most grown GM plants today are soya (58%), maize (23%), cotton (12%) and rape (7%). [18]

In 1996 the agricultural company Monsanto launched the pesticide called "Roundup". Next to the pesticide, they have patented the gene of the genetically engineered "Roundup Ready" soya bean that could resist the application of "Roundup". Then the prohibition against seed saving and re-planting was established in the USA. Monsanto now has 75 people employed solely to investigate and prosecute farmers for patent infringement.

Soon after the arrest of the Iraqi leader Saddam Hussein and the "friendly occupation" of the country by the US, a new legislation against seed saving was put in place, handing the seed market over to transnational corporations. The US has been imposing patents on life around the world through trade deals. In this case, a whole new chapter on Plant Variety Protection (PVP) has been inserted into Iraq's previous patent law. PVP is an intellectual property right (IPR) or a kind of patent for plant varieties which gives an exclusive monopoly right on planting material to a plant breeder who claims to have discovered or developed a new variety. [24]



The way of the food, from the farm to the supermarket: the ones who can sell are the ones who rely on industrial farming to produce food in large quantities

GM vs. organic

Food production chain, from the seed to the supermarket: Mass produced food; The ones who can sell are the ones who produce large quantities.

The majority of organic food available on the market is in fact industrially produced. It uses less, or no artificial pesticides; it produces an amount sustainable for the land, and its' production is not driven by multinational corporations' interests. It is rather driven by fashion, and sometimes owned by corporations.

The critics of organic food hype question its' production capacity for meeting the demand for food in the current world population. [22]

The development of the organic movement started off as a hippie trend, an opposition to the rational utilitarian mass produced food chains. Today's organic food is either a mass-produced commodity for the middle classes in developed countries, or a rare and difficult to find line of products sold only in small local stores. The big break-through of organic foods into supermarkets was not only driven by the utopian ideals of environmentalists who saw it as a chance to offer their products to a greater audience, but also by the typical capitalist economy of diversity, who follows market trends to create a new, or niche market.

The graphical scheme is based on the diagram found in "La belle au bois dormant", published by Bureau d'Etudes in 2006, page 1, map titled "Gouvernement du systeme agroalimentaire"

Art is like act is art

Shifting the context and with it, the function of an object or act is not any more simply a reference to Duchamp's pissoir. When artists take up illegal actions or create documents that carry some more general objective information than an artwork usually does, it negates its potential use, transferring them in the field of artistic practice.

In 1999, British artist Heath Bunting developed the Superweed Kit 1.0 "to threaten the governments with the same tools they are usually threatening us". This is the general attitude explained under the CTA:

"The Cultural Terrorist Agency (CTA) is a funding agency committed to supporting contestation of property and representation. CTA turns its enemies best weapon, that being investment, back onto itself.

We provide tactical finance support for combatant individuals and groups from our central fund, made up of combined multiple pledges.

This highly mobile central fund can be deployed immediately to areas of conflict with capitalist fundamentalists." [25]

SuperWeed Kit 1.0 was a low-tech DIY kit designed to seed a genetically mutant SuperWeed which would be resistant to corporate monoculture practices, such as "Roundup Ready" crops.

The artist based his intervention on the premise that the mutated weeds would occur anyway as a part of the process of adaptive evolution of organisms exposed to new conditions. Trying to play one step ahead of the corporate business, he uses the exact same strategy biotech company like Monsanto applies to nature.

"By releasing SuperWeed 1.0 into the environment long before biotech companies have a suitable fix, you will contribute to large losses in their profitability, thus causing them to reassess their future strategies and investments." [26]

Several years later, Kayle Brandon and Heath Bunting, acting as the DUO Collective, published their maps of food available for free in a British city. They have conducted a detailed survey of edible plants that live within the public realms of Bristol. They investigated potential planting sites, with the aim to increase the life spectrum of the city. [27]

This project resembles the practices of other artists, working on the border of utilitarianism and activism, to reconstruct the link between the immediate surrounding and our basic needs. Encouraging people to map and use edible, naturally occurring foodstuffs is part of a larger and spontaneously emerging network of initiatives. The idea of tapping into public space and making individual use of it has been around since the globalization movement that made it cheaper to eat food that has been grown 1000s of kilometers away from where we stand.

The not so Guerilla gardening movement restores the practice of food growing in urban areas that has been promoted by governments in big American cities after World War II. Making use of all available land to grow food is not only beneficial for land management but also reestablishes the immediate connection between us and the food we eat, as we can see where the food is coming from. [28]

In the Fallen Fruit manifesto, we read: "A specter is haunting our cities: barren landscapes with foliage and flowers, but nothing to eat. Fruit can grow almost anywhere, and can be harvested by everyone. Our cities are planted with frivolous and ugly landscaping, sad shrubs and neglected trees, whereas they should burst with ripe produce. Great sums of money are spent on

young trees water and maintenance. While these trees are beautiful, they could be healthy, fruitful and beautiful." [29]

Picking up food that is already there refers to the old gleaners tradition of collecting the leftover crops from farmers' fields after they have been commercially harvested. In today's setup, we are talking about supermarkets where food is thrown away after the expiry date or an arbitrary date after which it cannot be sold anymore. Fallen fruit and similar initiatives question the hidden capitalist habit to think of throwing away as an act of novelty, proving that we have more than enough. In fact, this throw away society is the perfect environment for capitalizing on overconsumption. Throwing away with dignity.

These described practices do not call for a big fix, but force us to rethink and reconsider our habits. One solution for it all is too aggressive. And voting may be too passive.

[1] Agriculture in the EU, B. Halahan, April 2009, http://www.wwf.org.uk/filelibrary/pdf/ag_in_the_eu.pdf

[2] Food Inc., a movie by Robert Kenner, USA 2006. 0h 0' 45"

[3] Robert Goodin, Liberalism and the Best-Judge Principle

[4] John Parkinson, "Democracy, Architecture and Public Space", University of York, posted in January 2006, <http://www.claiming-publicspace.net/modules.php?name=News&le=article&sid=77>

[30] Raymond Williams, Keywords, Fontana Communications Series, London, Collins, 1976.

[5] Raymond Williams, Keywords, Fontana Communications Series, London, Collins, 1976. p. 95

[6] *ibid*, p. 96

[7] Bureau d'études, La belle au bois dormant, final edition, 2006, p. 4, "L'agriculture conquise"

[8] Food Inc., a film by Robert Kenner, USA, 2006. 0h 6' 37"

[9] We Feed The World, a film by Erwin Wagenhofer, Austria, 2005. <http://we-feed-the-world.at/en/facts4.htm>

[21] Food Inc., a film by Robert Kenner, USA, 2006. 0h 15' 38"

[10] http://ec.europa.eu/news/agriculture/090318_1_en.htm

[11] http://europa.eu/pol/food/index_en.htm

[12] http://ec.europa.eu/news/agriculture/081119_1_en.htm

[13] http://europa.eu/pol/financ/index_en.htm

[14] We Feed The World, a film by Erwin Wagenhofer, Austria, 2005. <http://we-feed-the-world.at/en/facts3.htm>

[15] We Feed The World, a film by Erwin Wagenhofer, Austria, 2005. <http://we-feed-the-world.at/en/facts.htm>

[23] same source

[16] We Feed The World, a film by Erwin Wagenhofer, Austria, 2005. <http://we-feed-the-world.at/en/facts5.htm>

[17] We Feed The World, a film by Erwin Wagenhofer, Austria, 2005. <http://we-feed-the-world.at/en/facts.htm>

[18] <http://www.foeeurope.org/GMOs/Index.htm>

[22] <http://www.cosmosmagazine.com/node/15>

[24] <http://www.grain.org/articles/?id=6>

[25] <http://www.irational.org/cta/>

[26] <http://www.irational.org/cgi-bin/language/language.pl?url=http://www.irational.org/cta/superweed/kit.html&language=english>

[27] http://duo.irational.org/food_for_free/

[28] <http://www.guerillagardening.org/>

[29] <http://fallenfruit.org/>

Wolfart // // // \ \ \ //

Tournament // // //

Eat IT!

Sunday, 9th of May

Wolfart ProjectSpaces hosted TOURNAMENT in EAT IT! City Simulator game by Selena Savic

Two teams played on a board designed as an analogue version of the video game "Sim City". The playing field of the cityscape was set by parameters determined from an online database. There also were special awards for the winning teams!

EAT IT! City Simulator game is developed as an attempt to structure and analyse current problems in urban planning, and more general problems of power distribution, through the example of food industry and its' main interest group, the supermarkets.

In this version, it was a two player game in which the players assume the roles of urban planners. They zone the area and enforce political and corporate interests they represent upon the space. The game exposes the conflict and confrontations of public and private interests. Operating with elementary urban planning tools, it harbours an awareness of the power structures involved. While one player is representing the side of micro economies, securing space for open markets, the other one is trying to occupy all commercial zones with supermarkets.

The work is concerned with social organization and problems of centralized distribution systems. With an analytic approach turned to the question of who can produce and consume in today's corporate economy, and through deconstructing an industry's chain of capitalization, offering an overview of the current condition of power structures.





////\Maasstraat Tournament////\

Wednesday, June 23rd

The winning teams have won symbolic prizes which comprised of food products from the EuroShopper brand. This is to confirm how easy it is to support the supermarket economy and to mark the belonging to a certain side because both teams were actually representing this side of the supermarket chains, in favor of mass-produced food industry and large conglomerates replacing small economies.

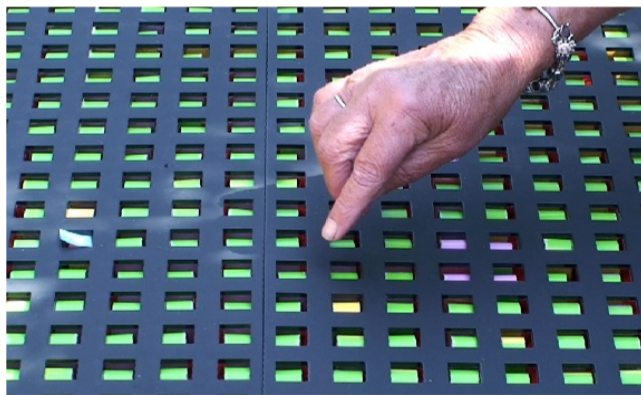


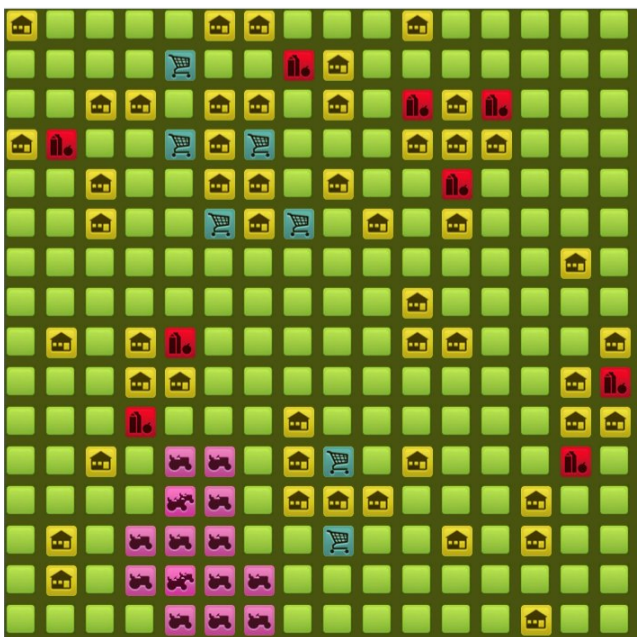
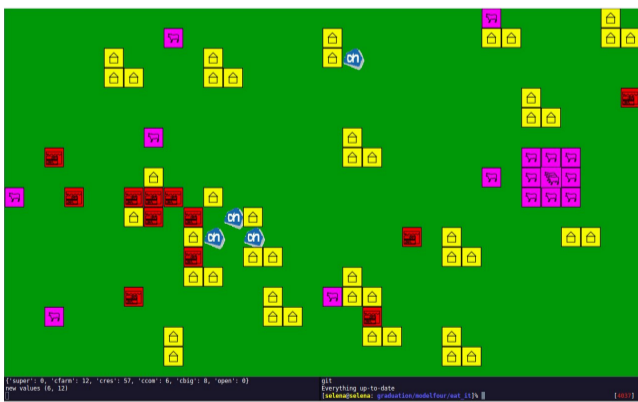
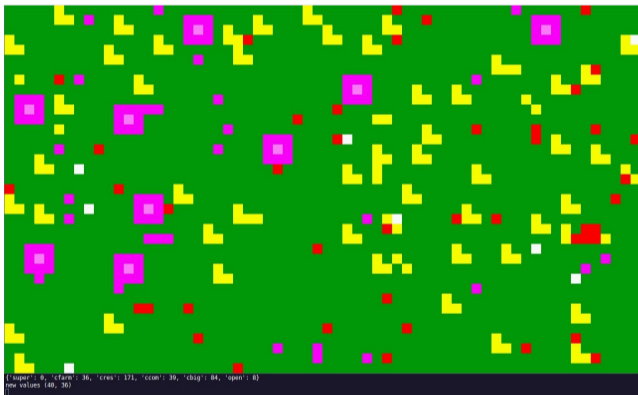
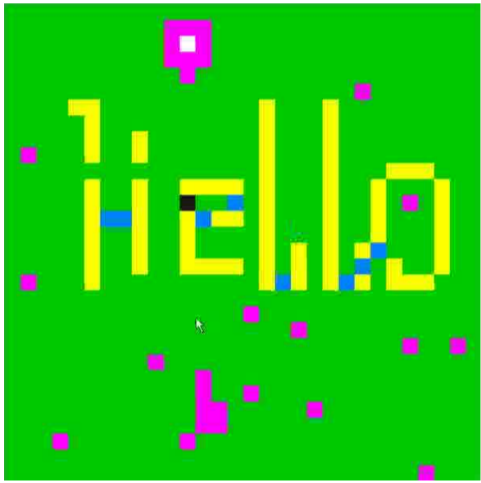
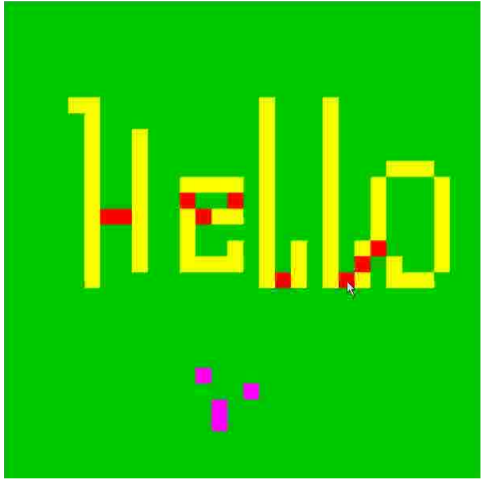
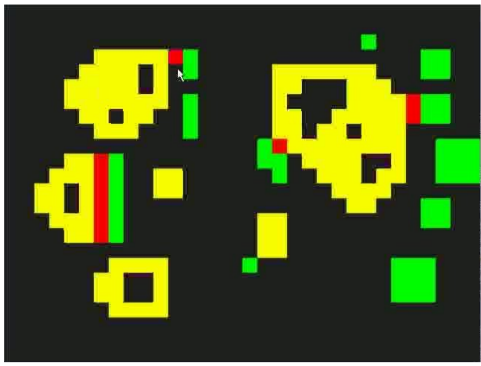
Stroom Den //// Haag /////////////// on Atelierroute, Maasstraat

Thursday, May 20th

On May the 20th two groups of visitors have been introduced to the board game, its components and rules. Accompanied by a guide, visitors made a tour around the center, including De Besturing, Stichting Centrum and several living-ateliers in Transvaal and Rivierenbuurt.

The board game was set up in the garden and the visitors could try building cities and growing farms on it.





<<///// pygame development/////>>

screenshots of successive stages of modification of the Pygame Game of Life code and development of the City Simulator

\\\\\\//\Board Game Prototype ¹⁴ first tests and proof of concept

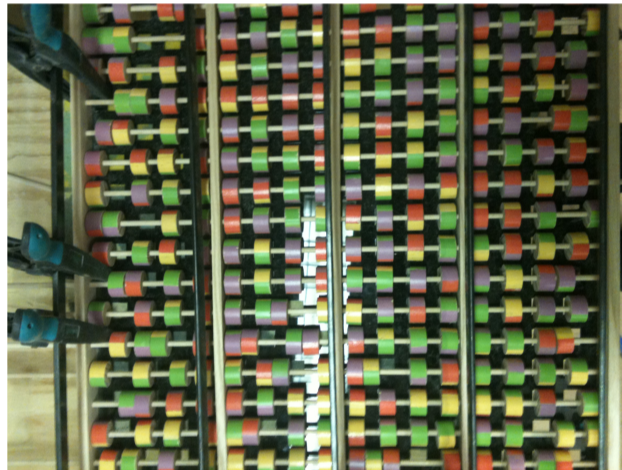
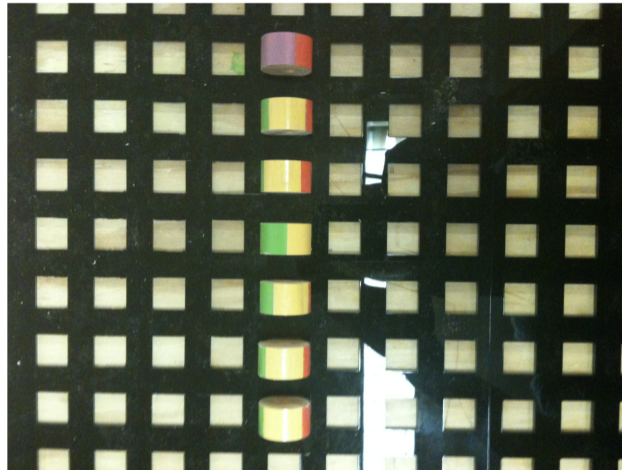
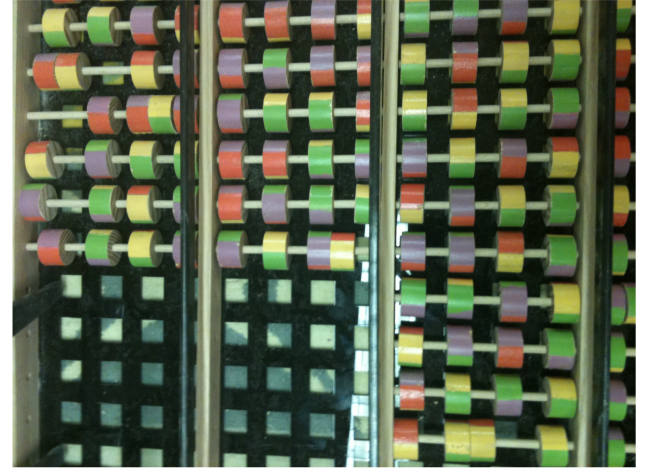
February 6th

The board is designed to represent an abstract city. It consists of four different city zones - residential (houses), commercial (shops), farms and unbuilt land.

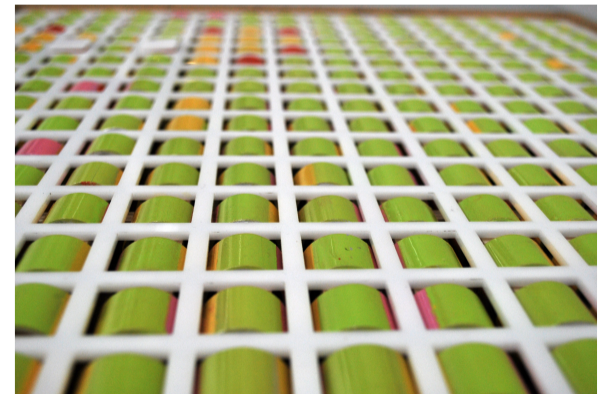
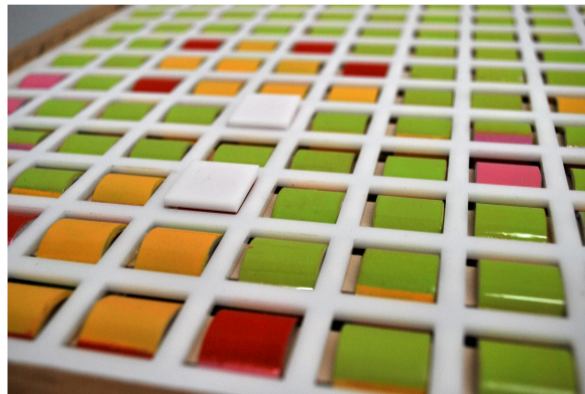
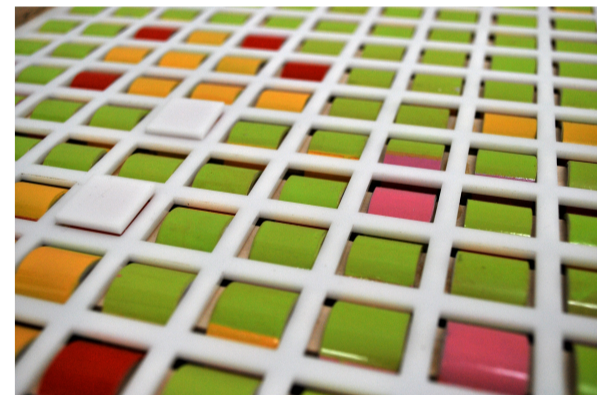
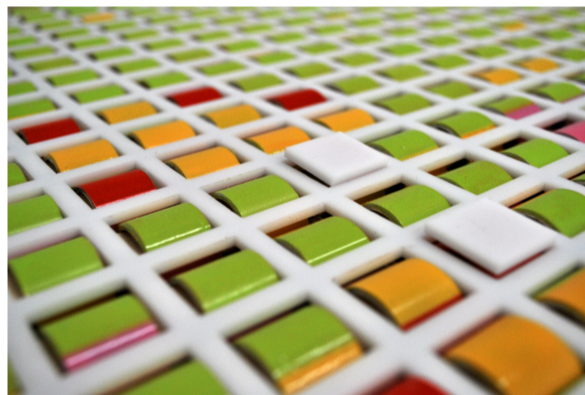
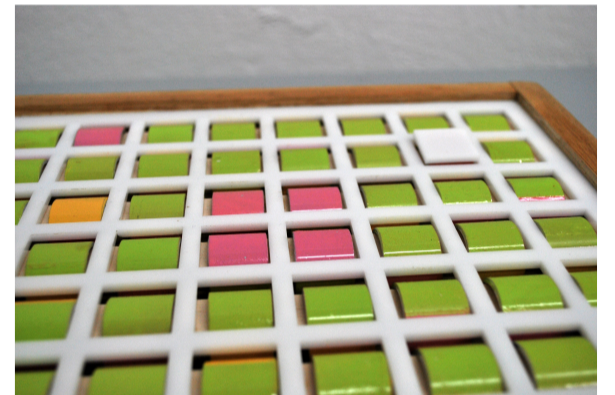
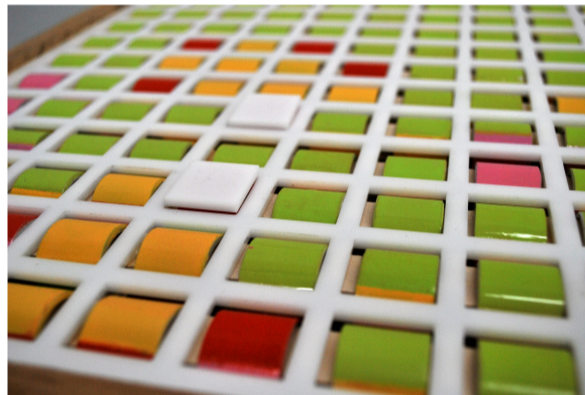
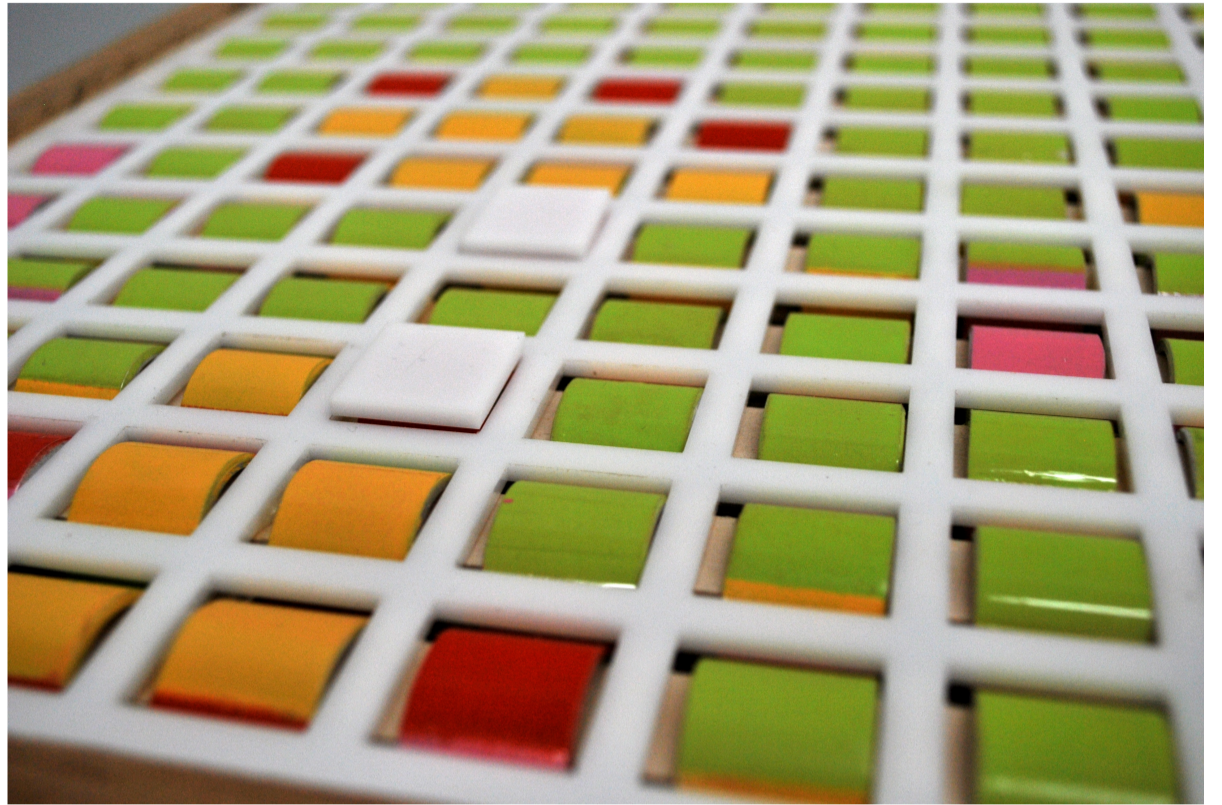
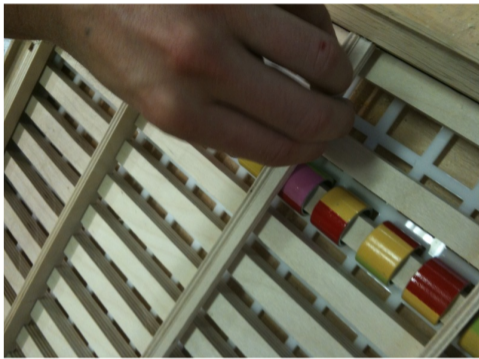
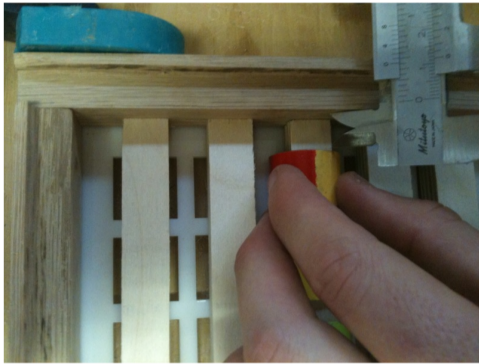
The colours of the zones are painted on wooden cylinders which can be rolled. By doing this, player switches between them.

A plexiglass board with square holes is layed over to hide the parts of cylinders that are not supposed to be "active".

The top layer was cut in CabFabLab in The Hague and the rest of the board was built in the Tutti Timbri workshop in Rotterdam.



\\\\\\//\\\\\\New Board Game//// redesign + bug fix



In the Fallen Fruit manifesto, we read: "A specter is haunting our cities: barren landscapes with foliage and flowers, but nothing to eat. Fruit can grow almost anywhere, and can be harvested by everyone. Our cities are planted with frivolous and ugly landscaping, sad shrubs and neglected trees, whereas they should burst with ripe produce. Great sums of money are spent on

Double Tournament @ WdW

Wednesday, 07 June, Witte de With 63
Games begin at 20:00, doors open at 19:30

The Networked Media Master of Piet Zwart Institute, WdKA RotUni would like to invite you to the a Tournament of Eat IT! City Simulator and The End.

Two teams will play Eat IT! City Strategy on a board designed as an analogue city building game. The playing field of the cityscape will be set by parameters determined from an online database.

game design: Selena Savić (RS)

<http://pzwart2.wdka.hro.nl/~ssavic/graduation/>

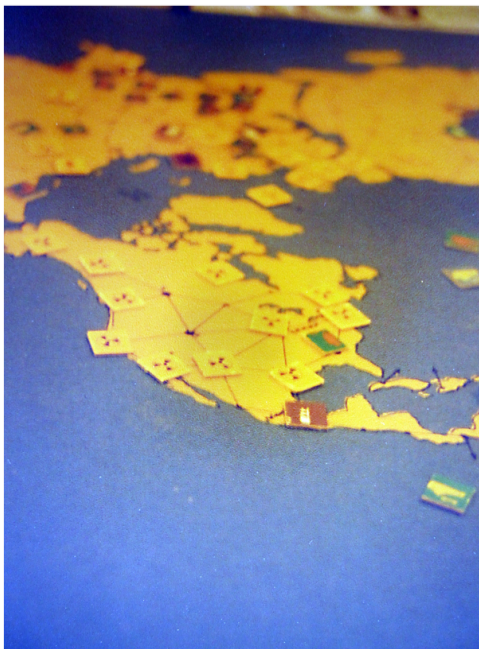


The End plays like a cross between Risk and Monopoly, with oil and nuclear weapons. The initial state of the game creates an image of the actual disposition of natural resources and military forces in the world at the time of the fall of the Soviet Union in 1991, making the game just as slanted and unbalanced as real life superpower politics.

game design: Paul Steen (SE)

<http://www.paulsteen.se/end.html>

And, of course there will be special awards for the winning players or teams!

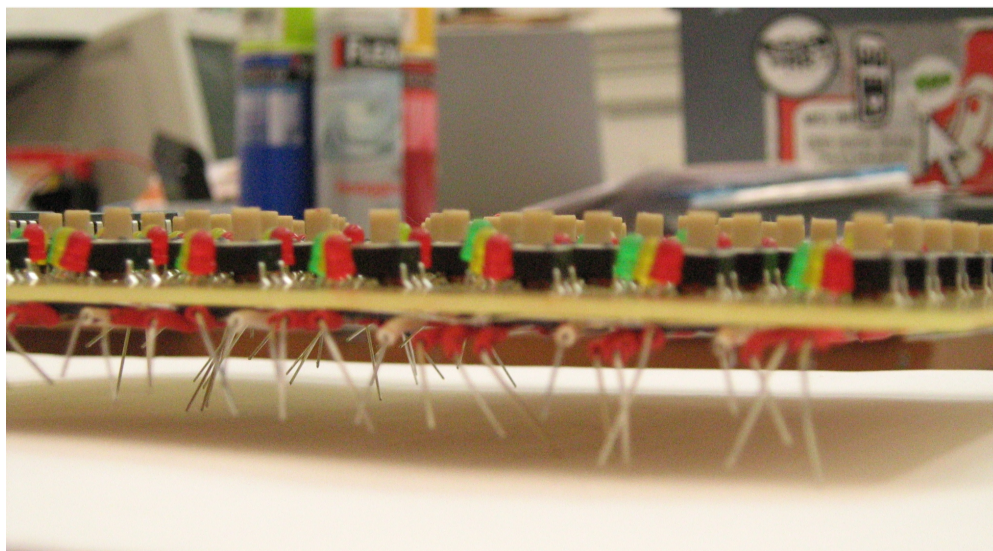
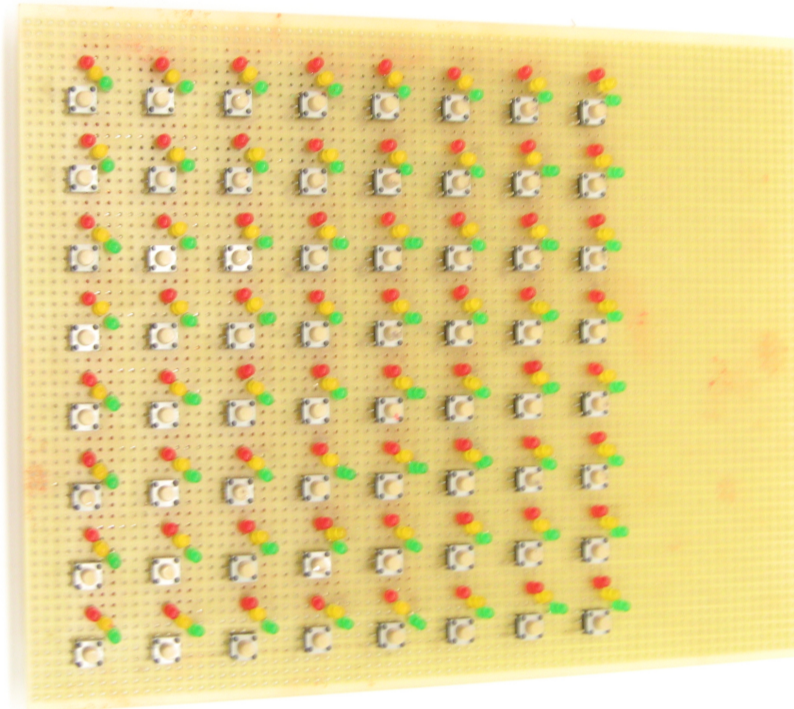


LED board: play with buttons

Next in line for the development of the EAT IT! City Simulator project, is the construction of a digitally controlled physical board game. This board will be made use of three-coloured LEDs controlled by button switches that would change between each of the four states of every "tile". Tiles here will be formed out of groups of LEDs, with the four different zones represented by three colours and the "off-state". A programme running on a Teensy board will control LED driver chips, which will maintain the switching of states and also the interaction between neighbouring tiles. The game engine will be based on the Pygame version, developed now as a game simulation.

The board will be able to; respond to user input, connect to the Internet and read the database, apply the basic rules automatically, all of this leaving the player to think about various different strategies to implement.

The objective here being to continue working on this object during the summer months, and have it completed by the end of September.

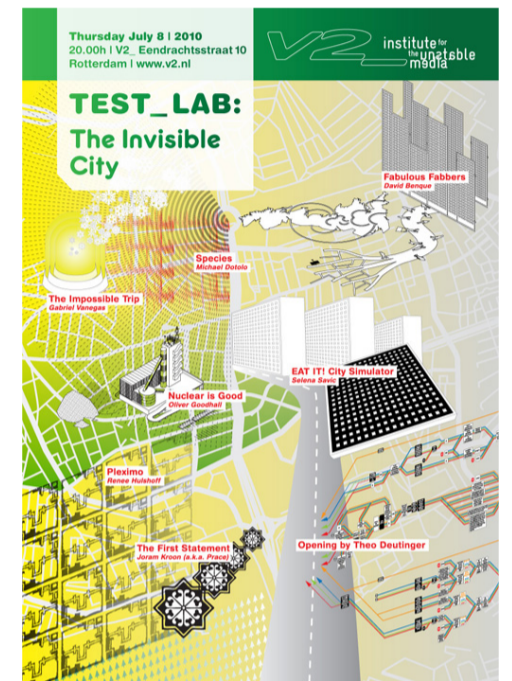


Presentation at V2

Thursday, 8th of July, V2,
Eendrachtsstraat 10, Rotterdam
20:00 to 23:00
(doors open: 19:30)

The project EAT IT! City Simulator will be presented at the TestLab: The Invisible City event, as a part of the selection of freshly graduated artists, architects, and designers from European art and design academies whose work explore the invisible aspects of our contemporary urban environments...

http://www.v2.nl/events/test_lab-the-invisible-city



Test Lab: The Invisible City

This information is available under the Creative Commons Attribution-ShareAlike — filed under: [presentation](#), [Rotterdam](#), [interactive work](#)

This edition will feature a selection of freshly graduated artists, architects, design academies whose projects explore the invisible aspects of our c

8 20:00 to 23:00

Jul 2010 location: V2, Eendrachtsstraat 10, Rotterdam

Add event vCal, iCal Michel van Dartel +31 (0)10 206 72 72

Opening: Theo Deutinger (AT/NL), TD Architects

Demonstrations: Selena Savić (SRB), Piet Zwart Institute | David Benque (FR), Royal College of Art | Michael Dotolo (US), Frank Mohr Institute | Renee Hulshoff (NL), Royal Art Academy | Gabriel Vanegas (CO), Academy of Media Arts Cologne | Oliver Goodhall (UK), Royal College of Art

Performance: Joram Kroon, a.k.a. Prace (NL), Utrecht School of the Arts

As Italo Calvino illustrates in his classic novel *Invisible Cities*, the notion of "city" extends far beyond its visible physical architecture. A city is characterized as much by the ways in which its urban life is organized, the problems and threats it faces and the memories, desires and fears of its inhabitants, as by the buildings and spaces that define its physical form. Due to the rapid and ongoing process of urbanization - resulting in half of humanity now living in urban environments - we are forced to radically rethink urban environments transforming at a rapid pace however, who is rethinking about almost forty years ago?

the project

EAT IT! City Simulator

credits:

design and prepress
Ronan Lane

printed in
Cicero, Belgrade

design of the board game:
Ronan Lane and Selena Savić

board made in the Tutti Timbri workshop,
Rotterdam

design of the graphics for the simulation:
Özlap Eröz

supported by

Stroom Den Haag

Den Haag / Rotterdam, 2010