PLAY Design Approach

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The most significant shift in post-modern society and science must be the fact that knowledge is growing so fast and in so many directions that it is virtually impossible for the average teacher to catch up with the latest developments related to his field. The accessibility of information sources has increased to the extent that students might have better and more fruitful access to knowledge than their teachers. Even more important, these students might have a better research and development attitude to gather, interpret and use the information they access. The importance of teachers is being replaced by the importance of pioneers, often in unknown or not yet accepted working fields. The students often become pioneers, which results in miscommunications and frustrations with traditional teachers. Like children, these students PLAY, not to waste time, but to learn and develop skills until they find a more challenging field to conquer. This PLAY approach is the foundation of the work of Maurer United Architects (MUA); a Maastricht based office for architecture, art and design. The authors are showing some highlights of MUA's young oeuvre in chronological order so that the benefits of a PLAY design approach become obvious.

Designers in different fields may not in all cases use the same kind of hardware; however, they are increasingly often using similar or at least compatible software programmes. This is why the use of computers makes it possible to explore the boundaries of each design field and even encourages designers to mix them. That is one reason why the digital age raises the fusion of different design fields to a whole new level. In the field of architecture the exactness of the digital information makes it possible to push back the limits of the design, as exact information may be transferred to various parties involved in the building process. The exploration of the so-called 'blub and blur' architecture has been made possible only by the development of these technologies. Although the architectural value and usefulness of these forms may in some cases be questionable, they are absolutely typical for the digital and virtual age. They embody the mythical *Zeitgeist* of the new millennium.
It is obvious that the use of the computer can extend the boundaries of the architectural and constructural design field; however, in relation to the PLAY design approach, the main interest lies in the exploration of the borderlines and bordering areas between the design fields. In this paper the authors want to examine this approach by analyzing a sequence of projects by the MUA office. These projects deal with the subcultures of *graffiti*, *skateboarding* and *media art*. A sequence of MUA case studies is presented in the next paragraphs.

Graffiti

For the last twenty years, the urban youth has been taking grey concrete walls to task. This trend, which arose at the end of the 1970s, is known the world over as graffiti. Among the growing amount of participators, there are some artists who conduct intellectual conversations with each other wholly within the subculture's unwritten laws and standards. In this academic dialogue the wall surface acts as an interface. Today we have to conclude that as a consequence of this protracted intellectual battle an exceedingly complex and highly developed formal idiom has emerged, one that deserves a place in international architecture.
MUA undertook the challenge to cooperate with the architect's most detested enemies: the graffiti artists. A crossover between these 'design fields' would result into new, non-standard architecture with very spatial effects and layered meanings hidden in typographic constructions.
Thanks to MUA's interest in the culture of hip-hop, graffiti was accepted not only as an art form but also as a design field. MUA admits this is very unusual for architects, as by tradition the relationship between architects and graffiti artists is characterized by hostility. As luck would have it, MUA met two of the most important Dutch graffiti artists in spatial typographic design, hooked up with them and as a design team started graffiti-related architecture together.
In 1994, Boris 'Delta' Tellegen graduated from the Delft University of Technology as an industrial designer. His roots as an artist lie in graffiti, from which he has taken the alias 'Delta'. The objects and constructions he draws are based on letters. Legible or illegible, the letters fuse into abstract, geometrically interwoven forms full of tension and movement. These sketched objects form the basis for paintings, collages, spatial work and murals. Tellegen has exhibitions in the Netherlands and abroad and also does record sleeves and fabric designs for clothing.
Graffiti artist 'Zedz' graduated in 1998 from the Gerrit Rietveld Academie in Amsterdam as a designer and autonomous artist. Since then he has been working as a professional visual artist. He explores the autonomous image that arises when letters do not have to meet the prevailing conventions of legibility and typography. In this way, he creates objects, paintings, murals and graphic designs. His activities have led to contributions to various international (post) graffiti exhibitions, commissions in a variety of fields and his own fashion label *Satellite01*. The design team – sometimes backed up by video artist Michal Butink – has been working together since 1997. The cooperation is based on a shared contemporary culture background and open mindedness. The result of this cooperation is a new kind of media architecture with a deconstructive aspect. As the chosen graffiti names are still the basic starting point for every design, a typographic dimension is added to the architectural design. The shape has a meaning. And the meaning is not the same to everybody, as most people will not even recognize the different capitals of a Delta in Delta's designs. But to some members of this society it is very clear that especially this kind of architecture is an information carrier. Not as before, when the grey wall functioned as the underlayer of the colorful graffiti piece, but as it is apparent in these instances, where the information itself becomes spatial form.

fig. 1 Golden Section by MUA.
fig. 2 Architecture samples by MUA.

Three examples:

Het Wilde Wonen (figs. 3 and 4)

In 1998 the Netherlands Association of Architects organized a competition called 'Het Wilde Wonen'. The collaboration between MUA and Delta resulted in a competition entry. The Wilde Wonen concept (briefly: housing freed from petty regulations) is conceived here as a challenge to develop an unpredictable floor plan for a villa.
By applying techniques culled from graffiti and dazzle painting, the 'wild' nature of the house is underlined in the elevations down to the smallest detail. The specific working-out with the aid of the computer shows how impressive an architecture based on the formal idiom of graffiti can be. This is visible both inside and outside the villa.

P2001 (figs. 5 and 6)

The P2001 architectural installation was designed at the behest of MAMA (Showroom for Media and Moving Art) for the event 'Rotterdam 2001 – Cultural Capital of Europe'. The installation aims to confront visitors to the exhibition with the theme of identity. To enter the structure, visitors have to cross a border. This border is emphasized visually by a dotted line and architecturally as a physical threshold. In a strategically placed mirror the visitors are confronted with this image of themselves at the moment of crossing. They continue their route to end up in a cooled, red space. Provided with sensors, they are surrep-titiously filmed in this passage from various angles. The space refers to Japanese manga syntax and suggests a futuristic ambience, partly due to the electronic sounds pervading it. In fact the visitor is standing in the void of a three-dimensional graffiti piece by Zedz; parts of letters several meters high can be discerned. When visitors pass through a gateway into the next passage, which points in the opposite direction, they see in the distance a projection on the wall. The all-black corridor has a remarkable profile. Visitors walk towards the projected light. The closer they get to the projection, the more confrontational shots they see of themselves among the series of images. This interactively guided sequence can also be received on the Internet. The visitors then leave the space and the installation through an opening in the exceedingly complex wall profile. Looking back, they are confronted with a three-dimensional Delta graffiti piece in vivid colors. They realize that they have been part of an architectural experiment in which extremes in architecture, new media and graffiti have been crossed-over.

Zedzbeton 3.0 (figs. 7 and 8)

At the behest of the Eindhoven University of Technology Art Foundation, MUA and Zedz have developed the design for urban furniture. The futuristic project entitled 'Zedzbeton 3.0' was designed for a location in front of the main building at the university campus. It is possible for the students to log-on their laptops at an intra/internet service in all the buildings of the campus. In the public space outside however, there are as of yet no such possibilities. Also, in spite of its geographical position nearby the city centre, the campus hardly takes any part in the local urban city life. The university board aims to transform the functional and businesslike, highbrow campus into an attractive, approachable and open accommodation for students and non-students, accessible day and night. These facts gave rise to the idea of designing public urban furniture that can fulfill these demands. The transformation of typographics into a three-dimensional architectural design involving the play of color, shadow and light is the central theme of the design. The two-dimensional fonts were extruded to three-dimensional variations, in order to subtract them from each other in a next step. This resulted in four objects: Z-E-D-Z. In every object there are two three-dimensional variations of the same character to be explored. The objects are meant to be built in concrete. Each of them measures about five meters in width, fifteen meters in length and four and a half meters in height. This scale makes it possible to access the objects and sit on them in different ways.
The design team of MUA, Delta and Zedz demonstrates that the by nature hostile attitude between architects and graffiti artists has been extinguished. For this adventurous confrontation which seeks to generate innovation within the architectural discipline, the team was awarded the *Nationale Millennium Prijs*, an award conferred by the Netherlands Foundation for Culture and Innovation, an initiative of the Netherlands Ministry of Economics and the Ministry of Education, Culture and Science. The prize money of Euro 50,000 has been invested in research projects of the design team.
None of the design studies were ever built for real, but computer aided design tools in combination with game platforms made it possible to experience these spectacular designs. As MUA designs in Autocad, making use of all three dimensions, it becomes easy to produce an *.stl file instantly, with rapid prototyping scale models as an additional result. (figs. 9 and 10)

fig. 3 Renderings of the design.
fig. 4 Stereolithogaphy model of the design.

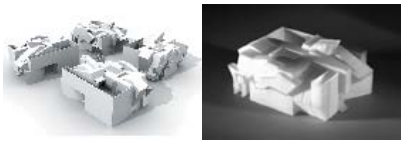

fig. 5 Rendering of the design.
fig. 6 Still from *Quake* game environment.

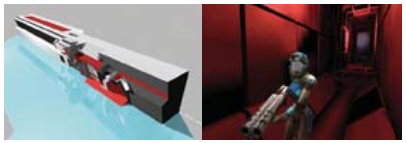

fig. 7 Renderings of the design.
fig. 8 Still from Unreal game environment.

For MUA's exhibition 'Playtime' (Eindhoven MU, 2001), Delta has designed five arcade game stations which are still in use today. During the 'Play-time' exhibition, visitors were able to move through virtual representations of several not-built MUA designs. The designs were placed in a *Quake* game environment.

Skateboarding

The most contemporary and essential section of form-follows-function architecture, the skateboarding facility 'design field', generates interesting case studies for double-curved surfaces. MUA has designed several skate-boarding facilities, and in all designs the main aim is to achieve perfect skateability. It is also impossible to design skate facilities without cooperating with local skaters. Again, MUA was lucky to have actually met two experienced international skateboarders. MUA hooked up with them to design Europe's largest wooden skatepool.
Jocko Weyland is an artist and writer living in New York City. He is the author of *The Answer is Never – A Skateboarder's History of the World* (Grove Press, 2002) and a contributing editor to *Open City magazine*. His writings and photographs have appeared in *Thrasher, The New York Times Magazine, Metropolis* and *Cabinet*.
Marcus Kamps is a skateboarder who has built many skate facilities himself. These facilities are sometimes very large, like the skatebowl at Wicked Woods in Wuppertal, or a complete skatepark in Dubai. Currently, he is working as a mailman for the Deutsche Post in Germany.
The design of a skate facility is an important part of the skateboarding culture. The philosophy behind skateboarding is based on the premise

fig. 9 INC Works for Playtime, Eindhoven.
fig. 10 INC Works in use.

that at all times it's the skater himself who determines the rules and challenges of his actions. Therefore, a skate facility can only be designed and built by (the community of) skateboarders themselves. Authentic skaters would never approve of a skate facility designed on the desk of an architect and built with municipal money. MUA concluded that for a skate facility project to be successful it would be necessary to incorporate the skateboarding culture into the design process itself. One example:

The MU Bowl (figs. 11 - 14)
Within the context of the exhibition ZONE (about the relations between skateboarding culture, art and architecture) the local city council granted a subsidy to the Eindhoven art foundation MU for the realization of a 'skate artwork' annex sports facility. MU director Ton van Gool commissioned the Eindhoven office MUA with the design of the skate facility: a wooden bowl. A bowl is a skate facility that has its roots in the kidney-shaped swimming pools built in California in the 1950s. Skate bowls, also known as pools, are preferably made of wood, as wood is resilient and therefore creates better conditions for skateboarding.
For a technical engineer, developing the best possible bowl for skateboarders is a challenge in that the double-curved surfaces used to construct kidney-shaped swimming pools are extremely difficult to realize in wood. MUA assembled a team of TU/e students and supervisors to tackle this challenge. The regular team of supervisors consisted of Jouke Post (Structural Design), Marc Maurer (Structural Design, MUA), Zjak Hofman (Structural Design), Jan Janssen (Constructional Design) and Ralf Brodrück (Architectural Design).

fig. 11 Scale model of the construction design at ZONE, Eindhoven.
fig. 12 MU Bowl, photography by Maarten van Viegen.

Because of the fact that MUA regarded implementing the skateboard culture in the process of building the bowl as a priority item, specialists from the skateboard scene joined the supervisory team responsible for optimum technical quality. Skateboarders, dealers and builders like Jocko Weyland (USA), Markus Kamps (D), Jeroen Sars, Richard Rotgans, Kasper Friedl and Mark Souman became involved in the design process. The students learnt about the history of skateboarding, the ways of using skateboards, the tricks and the technical constraints of the required slopes and heights. In addition, academic discussions were organized on the benefits and legitimacy of fluid forms in architecture and, prompted by Iain Borden's lecture, on the differences in perception between pedestrians and skateboarders. In the end the students lived, ate and breathed skate philosophy, a fact that was evident from their design studies. From these studies, one design was selected which the stu-dents followed up constructionally and structurally to the detailed design stage.
After the successful completion of the design process, MUA enthusiastically undertook the supervision of the construction phase of the project. MUA found a builder with enough enthusiasm to realize this one-of-a-kind project. Bulsink Contractors (accompanied by Marcus Kamps) would realize as a team an authentic skate cultural facility. All construction parts of the double-curved design were produced off-site by means of CAD/CAM techniques. When the assembly of the main construction was completed on site, the cladding of the three top layers proved to be a test for real craftsmanship; obviously, the cladding had to be perfect but could only be

fig. 13 Rendering of the construction design.
fig. 14 MU Bowl, photography by Maarten van Viegen.

measured, designed and built on site. Therefore, a daily visit by the supervising party MUA was a must. After six weeks on site the whole project was finished, just in time for the planned opening party. Professional American skaters were invited by MU to test the bowl and their comment was short and sweet: 'It's a piece of art!' The bowl turned out to be Europe's largest wooden skate pool. It draws about 25.000 (international) visitors every year.

Media art

Proceeding from several game applications to present architectural designs, MUA have used their experience to develop art installations that communicate MUA's way of thinking. Most of these multiplayer systems and game based environments were produced by Joost Eggermont, industrial designer at the Delft University of Technology, who has been working at the MUA studio for several years now. MUA's development of architecture related media art installations is shown clearly in a selection of projects.
Three examples:

Colabar (figs. 15 - 18)
In the Amsterdam based gallery Mediamatic Supermarkt, MUA presented the Colabar installation, which featured an interactive game enabling the visitor to experience what it is like to be a bubble in a glass of cola. Instead of showing drawings and models of work by the office, the young designers decided to transform the Mediamatic space into a 1 to 1 (interactive) architecture installation. The work was divided into two parts, organized in two separate exhibition rooms.

fig. 15 Colabar bar, photography by Maarten van Viegen.
fig. 16 Colabar lounge, photography by Maarten van Viegen.

One room was changed into a bar establishment. This bar offered 50 different cola brands from all over the world. The design of the bar was transformed into a 25 square meter platform that could be used as a lounge area. This resulted into a situation where people were actually sitting and lying on the bar. It generated a very informal atmosphere. Compare this set-up to a conventional bar that only offers one brand of Cola as a result of selling contracts. In the Colabar, however, personal taste matters even though the different liquids look very similar. The bar design was completed with lounge pillows (still covered in industrial plastic), a projected animation of a bubbling world map, pictures on the wall of all bottles and cans that can be ordered, two giant contemporary pop art photographs by Maarten van Viegen and some cola candies imported from Japan.
The second room was changed into a computer gaming environment. In cooperation with Joost Eggermont a game was developed that allows players to find out the essence of being a bubble in a cola drink. The gravity is slightly negative, so one is floating in a bottom-up direction. One is able to shoot with bubbles at other bubbles. A special weapon makes it possible to capture other bubbles into a bigger bubble, which causes the players to go up faster. If a bubble reaches the surface of the Cola liquid, it explodes. The bubble that pops last is the winner. The player is seated at the *Bubble Chair - Special Black Edition*, also designed by MUA. The room was completed with red neon lights and shredded used rubber tires that covered the floor in a three cm high layer. Empty cola bottles and cans from the other room were presented at this floor like garbage.

fig. 17 Colabar game room, photography by Maarten van Viegen.
fig. 18 Still from *Unreal* game environment.

collaboration
skateboarding
hip hop

Peutz-digital
The Heerlen Vitruvianum/Glaspaleis – Venster op Cultuur invited MUA to set up an exhibition about Peutz seen through the eyes of two young architects. MUA started studying and reading about Peutz and collecting old drawings of the buildings. This was not an easy thing to do, because Peutz' work and drawings are difficult to access. It was decided to concentrate on eight buildings: the Raadhuis, the Glaspaleis, the Retraitehuis, the ULO School, the Peutzhuis, the Sonnehuis, the Royal Theater and the LTM Building. During a period of two years, students of the Hogeschool Zuyd translated original freehand drawings into digital two-dimensionals. In a next stage, the MUA studio transformed these files into three-dimensional models and finally into a virtual platform: a computer game. Reaching a large audience, as large as possible, especially a younger and contemporary generation was one of the main aims of the project. The production of new renderings and a computer game helped to point out aspects of the designs that the two young architects like, but also to attract a young public. The computer game platform facilitates the access to the inside view. In this particular case, the fact that most of the selected buildings were within walking distance from the exhibition space, made it attractive to show a virtual variant of Peutz's work. (figs. 19 and 20)
During MUA's efforts to design a way that allowed vistors to play with Peutz's buildings, the MUA studio was confronted with the issue of defining proper game characters. As the eight selected building designs by Peutz were to form the setting of the game arena, the acting characters needed to have a rather neutral, but architectural and extremely flexible, moveable appearance.
Having seen the studies that Peutz did during his studies in Delft, MUA decided to use the classic Greek columns as main characters in the game. They were named Tusca, Doric, Ionic and Corin. The four columns became a very important issue in MUA's approach; as a character group they were named 'Rockit's.' Once defined as characters, they were able to move which resulted in twisted variations of MUA's pop-art versions of the classic Greek order. The computer was used to de-form and de-construct the generally known definitions of the foundation of Western societies: the order once defined by Vitruvius. How very much like Peutz this was, in a 21st century way. And how worthy of Vitruvianum. But even more interesting to MUA was the ability of the player to identify himself with the character of one of the four columns. The game enables the player to walk through designs by Peutz presented in a contemporary way, not by models and drawings but interactively. But it also enables the player to transfer himself into the inner being of the architecture of a column itself. In this way, for the first time in the history of architecture, the virtual presentations of the columns are provided with an actual 'soul', the player's alter ego. A very interesting solution: the introduction of 'live' architecture. (figs. 21 and 22)

'Ceci n'est pas une game'
The Los Angeles Art Gallery Roberts & Tilton invited MUA and some other promising Dutch artists to take part in the group presentation Capoeira. MUA was the only architect's office, and the only exhibitor that produced an interactive installation. Together with Joost Eggermont, MUA developed a contemporary version of Magritte's famous painting 'Ceci n'est pas une pipe' (this is not a pipe). The work is entitled 'Ceci n'est pas une game', and tries to lay bare the relationships between art, art history and play, and even between original and reproduction as well. (figs. 23 and 24)
While Magritte's work wanted to define the distinction between an object and the representation of it, MUA questions if in the age of virtual representation this holds true in all cases. In the new work, the famous pipe is transformed into a game character that can be moved by a regular game pad. The game environment is defined by two blow-up pipes floating in an infinite space, represented in wire-frame modus. The 'game' starts in one of the two big pipes. Being the small pipe, the player can move up in the direction of the small exit of the blow-up pipe. Stepping outside, the small pipe will fall through the infinite space right into the other blow-up pipe. From then on, the 'game' repeats itself. It is not really a game, which explains the title of the work. The logo of the non-game is an image of the game environment: two pipes crossing each other, defining a loop sequence. (figs. 25 and 26)

Architecture

Learning from these presented case studies, MUA has recently focused not on designing architecture that can be translated into game environments, but on the designing of game characters that can specifically be added to the field of architecture. *The Rockit* game character makes it possible for the player to act like a piece of architecture that is brought to life. MUA's latest project is a 54 meters high real estate game character. One example:

Indemann
Within the framework of Euregionale 2008, MUA was commissioned by the German municipality of Inden to design an observation tower which could also function as a landmark along the traffic-intensive Autobahn A4 Aachen-Cologne. (figs. 27 and 28) Inden is a small municipality that came into being as a result of the lignite mining activities by RWE Power near Eschweiler. In the past, complete villages were broken down and rebuilt elsewhere. Named after the local river Inden (which was temporarily diverted as well), the new municipality wants to function as the booster for the region. The planned observation tower commands a view of the still operational lignite mine and is a marker of this activity along the motorway.
MUA conceived the 'Indemann', a robot-like giant pointing to the distance. Functioning as an observation tower and incorporating a restaurant at a height of 50 meters, this constructed robot is the indicator of things happening. The Indemann scale matches the scale of the activities taking place at this spot. A virtually impossible performance is realized to serve the production of energy. MUA did more than just finding solutions to meet the functional package of requirements; it chose to realize a cultural statement that forms a link with contemporary society. The whole concept is represented by the enormous blow-up of a game character. (figs. 29 and 30)
The Indemann is being built on three scale levels: a six meter high sculpture to be erected on a public location in Inden, an 18 meters high mobile

figs. 19 and 20 Still from Unreal game environment.

figs. 21 and 22 Exhibition design at Glaspaleis, Heerlen.

figs. 23 and 24 Still from Unreal game environment.

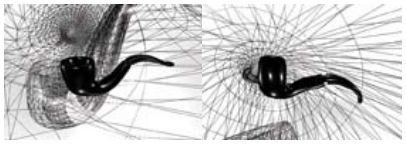

fig. 25 Logo of the project.
fig. 26 Presentation at Capoeira, Los Angeles.

installation along the edge of the mining area functioning as a periscope ('see what the Indemann sees') and a 54 meters high observation tower and landmark on the plateau of the Goldsteinkuppe.

Analyzing the presented case studies, one can summarize the applied design approach and results as follows. The PLAY design approach is mainly an act of redefining:

1 *Redefining the challenge.*
The designer ad demands based on his own interest to the design challenge that was given to him. As a result, the task becomes more complex. For the designer this does not automatically mean that the task becomes more difficult to solve. However, the results will be more satisfying to him. In other words, the designer redefines the challenge even before starting to design.

2 *Redefining the context.*
The designer looks beyond the design field of his practice. He might work together with designers of other (not yet accepted) design fields. The designer places the design challenge in another light. He redefines the context of the challenge.

3 *Redefining the solution.*
The designer finds new design results that go beyond given functional design tasks. As a result of step a. and b. the designs contains contem-porary cultural and social aspects. Cultural value and knowledge is generated by coming up with new, redefined solutions.

4 *Redefining the future.*
The designer will move away from his conclusions. He will come up with new demands and challenges in a next project. The next project solution must always be unthinkable in the beginning. In other words, the designer will help the client to redefine his future (by starting at a.).

The PLAY approach is not a step by step process but a continous process in all four directions.

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fig. 27 RWE Power at A4 Aachen-Cologne.
fig. 28 Mining activities at Inden near Eschweiler.

fig. 29 The Indemann design at different scales.
fig. 30 Scale model of the design.