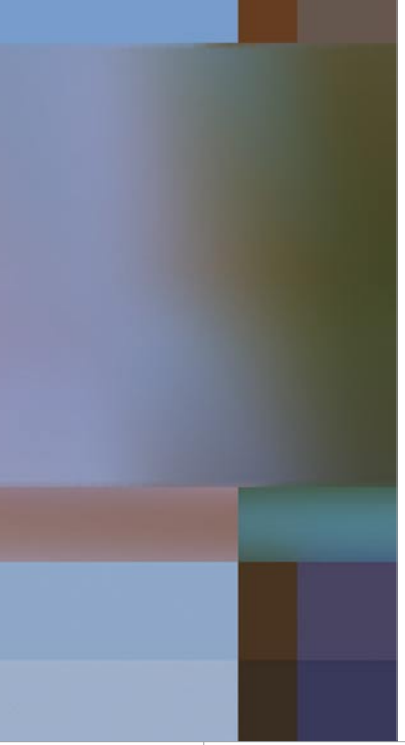


Soft Cinema

Lev Manovich with contributions by Andreas Angelidakis, Jason Danziger, Andreas Kratky, and Ruth M. Lorenz

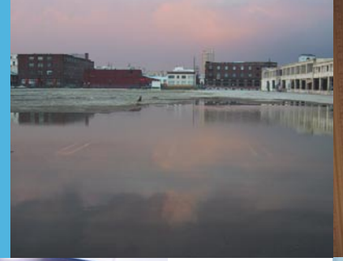
Soft Cinema is a dynamic media installation constructed from a large media database and custom software. The software edits movies in real time by choosing the elements from the database using the systems of rules. It decides what appears on the screen, where, and in which sequence; it also chooses music tracks. In short, Soft Cinema can be thought of as a semi-automatic VJ (Video Jockey)–or more precisely, as a FJ (Film Jockey).

The system is used to author editions in different styles, including "film essays," fictional narratives, and non-narrative "music videos". While the underlying software remains the same, each edition presents a different narrative and uses a different subset of the media database. In addition to the movies, the Soft Cinema project also includes architectural designs, print catalogs, and other manifestations in screen and physical spaces.

This book presents the general concepts behind Soft Cinema project, documentation of the edition produced for the exhibition FUTURE CINEMA. The Cinematic Imaginary after Film (November 16, 2002 - March 30, 2003) at ZKM | Center for Art and Media in Karlsruhe, and a number of architectural projects created for this edition. The book concludes with the short fictional story "Texas" which this edition uses as the text for the voice-over narration.

All multi-frame images appearing in the book were produced by using Soft Cinema software specifically for the book. The software was also used to generate the design layouts.

CREDITS



Lev Manovich lev@manovich.net	media database (videography, 2D and 3D animations, narratives), keywords, editing rules, image processing software, sound design, screen layout and installation design concepts
Andreas Kratky | Berlin kratky@zkm.de	implementation logistics, edit list generation software, display software, screen layout system
Christine Bokelmann | Berlin	graphic design (Soft Cinema book)
Anne Pascual and Marcus Hauer Schoenerwissen | Berlin yuko@schoenerwissen.com	media database visualization
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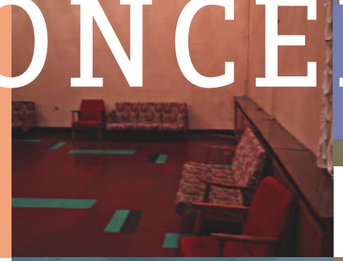
Andreas Angelidakis | New York a@angelidakis.com	architect
Olia Lialina | Stuttgart	the announcer
Rachel Beth Egenhoefer | San Diego	video logging
Ted Apel | San Diego	voice over editing
Gloria Sutton | Los Angeles	text editing, voice over
Francesca Ferguson | Berlin	voice over
Rachel Stevens | New York	voice over
ZKM www.zkm.de	installation construction + hardware

CONCEPTS



1. "Algorithmic Cinema."
Using systems of rules, software controls both the layout of the screen (number and positions of frames) and the sequences of media elements which appear in these frames.

2. "Macro-cinema."
Soft Cinema imagines how moving images may look when the Net matures, and unlimited bandwidth and very high resolution displays become the norm.

3. "Multimedia Cinema."
In Soft Cinema, video is used as only one type of representation among others: 2D animation, motion graphics, 3D scenes, diagrams, etc.

4. "Database Cinema."
The media elements are selected from a large database to construct a potentially unlimited number of different narrative films.

algorithmic editing

Soft Cinema is based on four ideas

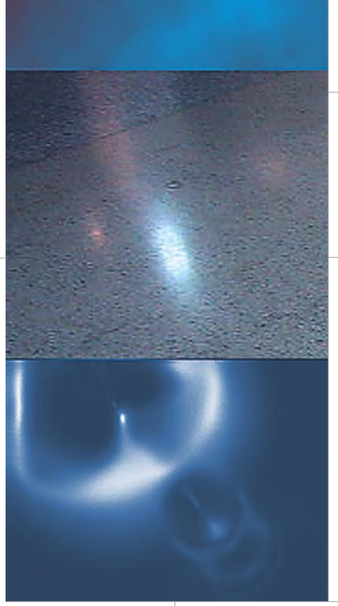
The first is the algorithmic editing of media materials. Each video clip used in Soft Cinema is assigned certain keywords that describe both the "content" of a clip (geographical location, presence of people in the scene, etc.), and its "formal" properties (i.e., dominant color, dominant line orientation, contrast, camera movement). Some of the keywords are automatically generated by an image-processing software (written in VideoScript), while others are input by hand. The program (written in LINGO) assembles the video track by selecting clips one after another using a system of rules (i.e. an algorithm). Different systems of rules are possible. For instance, one system selects clips closest in color, or type of motion to a previous one; another matches the previous clip in content and partially in color, replacing only every other clip to create a kind of parallel montage sequence, and on and on.

The current version of Soft Cinema software allows the author to define such a particular system of rules, which it then uses to compile a sequence of video clips that best satisfy these rules. However, it is also possible to create other versions of the software that would give the author tighter control over the sequencing. For instance, one version may involve a video track completely edited by the author beforehand. Some shots could be designated as "replaceable" while others would remain unmodified (to keep narrative continuity.) Another version may contain a variable set by the author, which tells the program the probability of any shot being replaced. In summary, instead of posing complete randomness against the complete control of a human author, Soft

Cinema investigates a different paradigm: using a computer as an "association machine" that complements / reacts to images selected by the user with other images.

(Interestingly, CD and MP3 players as well as software for music playback, such as iTunes, all include an option to play songs in random order. Can this be another example of electronic music culture being ahead of other cultural forms in applying new computer logic?)

Recently, the dominant tendency in audiovisual computer culture (VJs, Flash and Shockwave audiovisual pieces) is to synchronize image and sound (using video output to control / generate the sound, or conversely, using audio to control video). Soft Cinema adopts another model, one influenced by Eisenstein's theory of audio-visual montage based on musical contrapunct. In Soft Cinema movies, visuals create their own fairly autonomous flow, which runs parallel to the flow of the narrative, but "syncs up" with it at key moments. That is, periodically a particular video clip is selected to "anchor" the narrative events.



database narrative

The second idea is database narrative. Rather than beginning with a script and then creating media elements that visualize it, I investigate a diffirent paradigm: starting with a large database and then generating narratives from it. In Soft Cinema, the media elements are selected from a database of a few hundred video clips to construct a potentially unlimited number of different short films.

"The source material for the visual track comes from a large database. Each video clip in the database follows Dogma 95 rules: it was shot in continuous takes without edits using a hand-held camera. Most of the clips have been recorded by the author while in Berlin, Tokyo, Riga, and other locations between 1999 and 2002; a few clips are simulated (i.e. a still image was animated to look like a video shot on location)."

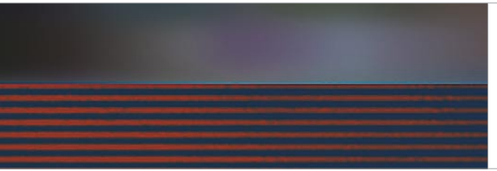
The third idea is what I call macro-cinema. While filmmakers such as Peter Greenaway and Mike Figgis have already used multi-screen formats for fiction films, thinking about the visual conventions of Graphical User Interface as used in computer culture gives us a different way to do macro-cinema. If a computer user employs windows of differing proportions and sizes, why not adopt a similar aesthetic for cinema? In Soft Cinema, the generation of each movie begins with the computer program semi-randomly breaking the screen into a number of square regions of variable dimensions. During the playback individual clips are assigned to these various sections. In this way, the software determines both the temporal and the spatial organization of a work, i.e. both the sequencing of clips and their composition.

Another inspiration for macro-cinema comes from contemporary cultural sites, which have already adopted a multi-frame format. One example is found in news and financial broadcasts, which combine a video of an announcer, a looping text, charts of stocks, etc., within a single screen. Another example is the use of multiple frames in many computer games where each frame may present the environment as seen by a different character. Importantly, in both examples, the information presented in the various frames is related to each other, but also maintains a semantic autonomy (in contrast to traditional cinema montage). For instance, a broadcast announcer would still make complete sense even if all of the ancillary graphics were removed. This example provides some direction in how to use multiple frames within macro-cinema.

Finally, yet another inspiration for macro-cinema comes from the evolution of video production and distribution technologies. While NTSC/PAL analog video and television resolution has hardly been sufficient to present even a single scene, HDTV standards (1920 x 1080 and the like) make it possible to divide the screen into multiple frames. In fact, HDTV television specifications allow broadcasters to break the total bandwidth of a signal (19 GB/sec in the US) in several different ways including transmitting one high-res image with a few medium images, or a larger number of low resolution images, etc. In short, the "fixed resolution-single image" convention of both 20th century cinema and television has already become technologically and conceptually obsolete.

While at present (2002) HDTV equipment is cost prohibitive for artistic use, it is possible to use QuickTime at DV resolution (480 x 720) to experiment with how multi-frame high-res cinema and television may look like in the future. This is the strategy used in the 2002 version of Soft Cinema. The original DV material is scaled down to 320x240, 240x180, and similar resolutions and encoded in QuickTime using Sorenson codec. This allows the Director program to play up to six clips simultaneously within one DV NTSC resolution frame (720 x 480).

In both the installation and the PC versions, a Director program assembles movies in real-time. Linear versions of the project are also available on DVD and videotape. To create a linear version, we (1) choose the movies we want; (2) connect a video camera to a computer; (3) run the Soft Cinema software. The DV camera records what appears on a computer monitor. (The linear version is available on DVD and all standard digital and analog video formats.)



multi-media cinema

The forth idea is to create a truly multi-media cinema. In Soft Cinema, video is used as only one type of representation among others: 2D animation, motion graphics (i.e. animated text), stills, 3D scenes (as in computer games), diagrams, etc. In addition, Soft Cinema supplements a "normal" video image with other types of lens-based imagery commonly used today by industry, science, medicine, and the military: low res web cam images, infrared images, edge-detected images as employed in computer vision systems, etc. While some music videos and artist videos already mix some of these diverse types of imagery within a single work, Soft Cinema assigns each type of imagery to a separate window in order to dramatize the new status of "normal" video, photographic and film images today–no longer the dominant form, rather just one source of visual information about reality among many others. An additional inspiration for juxtaposing several different representations of the same scene comes from the display setups that have become standard use in medicine, aviation and other contemporary workplaces. Rather than simply using these different types of representations for a purely visual effect, Soft Cinema investigates the possibilities of using them together for fictional narration.

Andreas Kratky

Soft Cinema – Database for Simultaneous Cinema

From Moholy-Nagy's perspective, the simultaneous parallel use of different media such as typography, photography and film was experimental pioneering work. It necessitated the development of special intellectual capabilities in order to be able to process the relevant flood of information. Today, this kind of multitasking is an everyday occurrence and omnipresent – as evidenced by CNN's screen design or the way we arrange a multitude of open windows on our computer screens.

Soft Cinema extends the schemata of information design into an artistic context, combining them to produce a kind of simultaneous cinema. Its approach moves within dimensions somewhere between classical film montage and the indiscriminate equivalency of database entries. It consists of two program sections, the generator and the display. The first section, the generator, has the function of creating a montage out of the individual strands of film. The basis for this process is a database of film sequences and the latter's characteristics such as composition, movement etc. In the first instance, these parameters are the result of an automated analysis of contrast values, movement, activity, etc. Secondly, however, they also indicate the location where the film was shot, its perspective, etc. The composition of these parameters is variable and can be adapted

to different approaches to montage. The adjustable combinations and weightings allow generator users to create films edited according to formal criteria similar to those of classical montage, but without regard for the development of a narrative storyline. In this sense, such works are closer to a relational database than to an edited film.

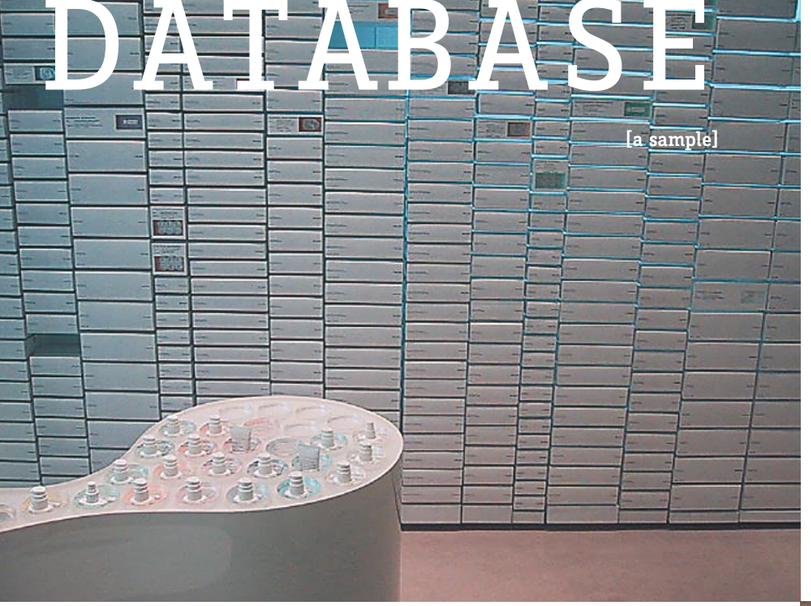
As a second stage, the display joins the individual strands of film produced using the generator to form a kind of montage of simultaneity. This program divides the screen into individual segments and within each either a film or abstract animation is shown. The division is done by an algorithm, ensuring that the screen is harmoniously divided up. Thus, differences in size and positioning on the screen take into account the correspondence and relationships between the individual films. The same stage of processing that divides up the screen allocates soundtracks, a looped text and a voice-over channel. This allocation process can be monitored using a script that is processed by the display.

The coherency and the arrangement of all elements on the screen produce a continuum that alternates between rhythmic, visual structures and descriptive symbols. Narrative elements appear and disappear again, or make room for other elements that are in competition with them. At times, the impartiality and non-interpreted quality of the database entries give rise to aesthetic and meaningful structures, that repeatedly fall apart and are transformed into other constellations.

(Translated from the German by Jeremy Gaines)

DATABASE

[a sample]



name	activity	average greyscale	contrast	dominant motion	distance	geolocation	typelocation	subject
Berlin_1-01.mov	0.0175515	0.391472	0.312261	right	medium	berlin	city_view	berlin 1999 s-bahn station
Berlin_2-01.mov	0.0145587	0.327971	0.298007	right	medium	berlin	city_view	berlin street 1999 - Checkpoint Charlie
Berlin_2.mov	0.00967501	0.44762	0.341623	left	medium	berlin	city_view	berlin street 1999 - Checkpoint Charlie
Berlin_3-01.mov	0.00537769	0.459677	0.307778	left	medium	berlin	city_view	berlin 1999 outside of Reistag
Berlin_3-02.mov	0.0418414	0.389944	0.299846	left	medium	berlin	pub_interior	berlin 1999 inside Reistag
Berlin_3.mov	0.010785	0.350407	0.244889	left	medium	berlin	city_view	berlin street 1999 - Checkpoint Charlie
Berlin_4-01.mov	0.00417326	0.503876	0.214534	no	medium	berlin	city_view	berlin 1999 outside of Reistag
Berlin_4-02.mov	0.00232807	0.50683	0.204803	no	far	berlin	city_view	berlin 1999 outside of Reistag
Berlin_4.mov	0.010971	0.344847	0.30107	right	medium	berlin	pub_interior	berlin 1999 inside Reistag
Berlin_5.mov	0.025158	0.400856	0.249888	away	close	berlin	pub_interior	berlin 1999 inside shopping arcade at Postd. Platz
Berlin_6-01.mov	0.0102873	0.359221	0.315843	right	medium	berlin	city_view	berlin 1999 Postd. Platz
Berlin_6.mov	0.0250128	0.357722	0.302823	left	medium	berlin	city_view	berlin 1999 Postd. Platz
clip-01.mov	0.0177115	0.267544	0.269062	no	close	japan	pub_interior	tokyo closeup of a video game player
clip-02.mov	0.0193964	0.378735	0.258301	left	medium	japan	pub_interior	tokyo medium shot of video game players
clip-03.mov	0.0350562	0.37513	0.337775	no	close	japan	pub_interior	tokyo closeup of video game screens
clip-04.mov	0.021751	0.345785	0.288679	no	close	japan	pub_interior	tokyo closeup of a video game player
clip-05.mov	0.0432968	0.457136	0.300521	left	medium	japan	city_view	osaka pan of a city view
clip-06.mov	0.0354092	0.42417	0.322801	right	medium	japan	city_view	osaka pan of a city view
clip-07.mov	0.00827949	0.37391	0.267613	left	medium	japan	city_view	osaka fixed shot of a city view
clip-08.mov	0.00401639	0.422739	0.239596	no	medium	japan	city_view	osaka fixed shot of a city view
clip-09.mov	0.0105395	0.426534	0.295164	no	medium	japan	city_view	osaka fixed shot of a city view
clip-10.mov	0.00649998	0.363115	0.330088	no	far	japan	city_view	osaka fixed shot of a city view
clip-11.mov	0.0083844	0.405342	0.327718	no	medium	japan	city_view	osaka fixed shot of a city view
clip-12.mov	0.0297149	0.39231	0.272357	right	close	japan	city_view	osaka fixed shot of a street
clip.mov	0.0136887	0.288292	0.266338	no	close	japan	pub_interior	tokyo closeup of a video game player
clip_001.mov	0.0141567	0.411474	0.291481	left	medium	berlin	city_view	berlin 1999 pan of Alexander Pl.
clip_002.mov	0.017827	0.415279	0.301373	left	medium	berlin	pub_interior	berlin 1999 s-bahn station
clip_003.mov	0.0162175	0.39295	0.300701	left	medium	berlin	city_view	berlin 1999 s-bahn station
clip_004.mov	0.0123917	0.465189	0.295113	forward	medium	berlin	city_view	berlin 1999 s-bahn station
clip_005.mov	0.00358073	0.421674	0.222487	no	medium	berlin	city_view	berlin 1999 fixed shot of Alexander Pl.
clip_006.mov	0.00658042	0.487692	0.268075	no	medium	berlin	city_view	berlin 1999 fixed shot of Alexander Pl.
clip_007.mov	0.00930418	0.516602	0.285594	no	medium	berlin	city_view	berlin 1999 fixed shot of Spree
clip_008.mov	0.00839671	0.488541	0.261902	no	medium	berlin	city_view	berlin 1999 fixed shot of Spree
clip_009.mov	0.00345131	0.271906	0.157933	no	close	japan	pub_interior	japan fixed shot in a restaurant
clip_010.mov	0.00680515	0.347793	0.291151	no	close	japan	pub_interior	japan fixed shot in a restaurant
clip_011.mov	0.0122947	0.463557	0.195559	right	far	japan	city_view	osaka pan of harbor from a window
clip_012.mov	0.0104691	0.289152	0.247447	no	very_close	japan	object	japan boiling water in a bowl
clip_013.mov	0.0211846	0.308181	0.222004	no	very_close	japan	object	japan boiling water in a bowl
clip_014.mov	0.0173285	0.313444	0.250328	no	very_close	japan	object	japan boiling water in a bowl
clip_015.mov	0.00609084	0.312552	0.325233	no	far	japan	city_view	osaka fixed shot in the airport
clip_016.mov	0.0110833	0.329415	0.251169	no	medium	japan	pub_interior	osaka fixed shot iside a highrise building
clip_017.mov	0.0118417	0.299566	0.168354	forward	medium	japan	pub_interior	osaka fixed shot iside a highrise building
clipp-01.mov	0.0149729	0.44146	0.264089	no	close	berlin	city_view	berlin 2002 fixed shot of a street intersection
clipp-02.mov	0.0325454	0.509309	0.317297	no	close	berlin	city_view	berlin 2002 fixed shot of building windows
clipp-03.mov	0.0102006	0.172377	0.153285	no	very_close	berlin	object	berlin 2002 fixed shot of a tree
clipp-04.mov	0.00349484	0.540977	0.243415	no	medium	berlin	city_view	berlin 2002 fixed shot of buildings
clipp-05.mov	0.0191937	0.55454	0.257922	no	medium	berlin	city_view	berlin 2002 fixed shot of a street intersection
clipp-06.mov	0.00915942	0.243529	0.254366	no	medium	berlin	city_view	berlin 2002 fixed shot of people waiting

CODE

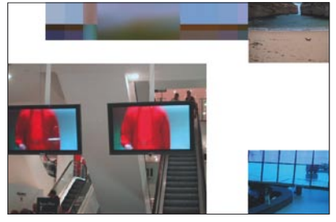
[the key parts]

Soft Cinema software is written in Director and runs on a standard PC or Mac.

Code for the selection of clips in the Generator program

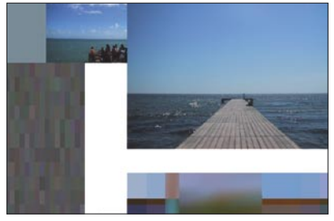
```
on findMatch vCompare
  vPreviousClip = vCompare
  if gGeneratorFlag=true then

    -- Initialisieren der Zwischenspeicher
    lSelection=[]
    lHighscore=[]
    lSecondscore=[]
    lLowscore=[]

    repeat with p = 1 to gDatabase.count
      lSelection.addAt(p,0)
    end repeat
    repeat with a = 1 to gParameterList.count

   -- Bereichsinitialisierung
      tempParam = string(getPropAt(gParameterList, a))

      if getPropAt(gParameterList[a], 1) = #range then
        vParameterRange = gParameterList[a].current
      else
        vParameterRange = ((1.0000 - gParameterList[a].weight) / (1/
(gParameterList[a].high - gParameterList[a].low))/2.0000)
      end if
      --  Durchgehen der Datenbank
      repeat with i=1 to gDatabase.count

        -- Parameterpruefung
        if getPropAt(gParameterList[a],1)= #range then -- alphabetische Werte
          if getProp(gDatabase[i], tempParam) = vParameterRange then
            lSelection[i] = lSelection[i] + gParameterList[a].weight
          end if
        else  -- numerische Werte
        -- Festlegen der Bereichsbegrenzer
          if (getProp(gDatabase[vCompare], tempParam)-vParameterRange) >
gParameterList[a].low \
          and (getProp(gDatabase[vCompare], tempParam)+vParameterRange) <
```

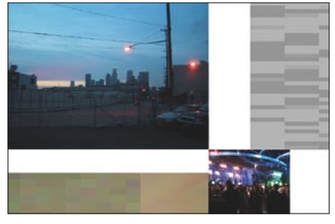
```
gParameterList[a].high then
            vLowEnd=getProp(gDatabase[vCompare], tempParam) - vParameterRange
            vHighEnd=getProp(gDatabase[vCompare], tempParam) +
vParameterRange
          else if (getProp(gDatabase[vCompare], tempParam)-vParameterRange) <
gParameterList[a].low then
            vLowEnd=gParameterList[a].low
            vHighEnd=gParameterList[a].low+vParameterRange *2
          else if (getProp(gDatabase[vCompare], tempParam)+vParameterRange) >
gParameterList[a].high then
            vLowEnd=gParameterList[a].high - vParameterRange *2
            vHighEnd=gParameterList[a].high
          end if

          -- Ueberpruefen des Kriteriums
          if getProp(gDatabase[i], tempParam) >= vLowEnd and
getProp(gDatabase[i], tempParam) <= vHighEnd then
            lSelection[i] = lSelection[i] + gParameterList[a].weight
          end if
        end if
      end repeat
    end repeat
    put “weighted selection:” && lSelection

    -- Ermittlung der Extremwerte
    vHighestValue = 0
    repeat with l=1 to lSelection.count
      if lSelection[l] > vHighestValue then
        vHighestValue = lSelection[l]
      end if
    end repeat

    vSecondValue = 0
    repeat with l=1 to lSelection.count
      if lSelection[l] < vHighestValue and lSelection[l] > vSecondValue then
        vSecondValue = lSelection[l]
      end if
```



```
end repeat
 vLowestValue = vHighestValue
repeat with l=1 to lSelection.count
  if lSelection[l] < vLowestValue then
    vLowestValue = lSelection[l]
  end if
end repeat

-- Zusammentragen der Extremen
repeat with l=1 to lSelection.count
  if lSelection[l] = vHighestValue then
    lHighscore.add(l)
  end if
  if lSelection[l] = vSecondValue then
    lSecondscore.add(l)
  end if
  if lSelection[l] = vLowestValue then
    lLowscore.add(l)
  end if
end repeat

-- Durchmischen der Listen
lNewHighscore = []
tempCount = lHighscore.count
repeat with i=1 to tempCount
  vSelect=random(lHighscore.count)
  lNewHighscore.add(lHighscore[vSelect])
  deleteAt(lHighscore, vSelect)
end repeat
lHighscore = lNewHighscore

lNewSecondscore = []
tempCount = lSecondscore.count
repeat with i=1 to tempCount
  vSelect=random(lSecondscore.count)
  lNewSecondscore.add(lSecondscore[vSelect])
  deleteAt(lSecondscore, vSelect)
```

```
    end repeat
    lSecondscore = lNewSecondscore

    lNewLowscore = []
    tempCount = lLowscore.count
    repeat with i=1 to tempCount
      vSelect=random(lLowscore.count)
      lNewLowscore.add(lLowscore[vSelect])
      deleteAt(lLowscore, vSelect)
    end repeat
    lLowscore = lNewLowscore

    -- neuen Clip aus Selection auswaehlen
    vSelectString=""

    vSelectClip = void

    if lHighscore <> [] then
      repeat with q=1 to lHighscore.count
        if lHighscore[q] <> vPreviousClip and gUsageList[lHighscore[q]] <
string(member("repetition").text) then
          vSelectClip = gDatabase[lHighscore[q]].name
          vSelectSource=lHighscore[q]
        end if
      end repeat
    end if
    if lSecondscore <> [] and vSelectClip = void then
      repeat with q=1 to lSecondscore.count
        if lSecondscore[q] <> vPreviousClip and gUsageList[lSecondscore[q]] <
string(member("repetition").text) then
          vSelectClip = gDatabase[lSecondscore[q]].name
          vSelectSource=lSecondscore[q]
        end if
      end repeat
    end if
    if lLowscore <> [] and vSelectClip = void then
      repeat with q=1 to lLowscore.count
```





```
        if lLowscore[q] <> vPreviousClip then
          vSelectClip = gDatabase[lLowscore[q]].name
          vSelectSource=lLowscore[q]
        end if
      end repeat
    end if

    -- Ermitteln der In- und Outpunkte
    sprite(gExchangeMember).member.filename = vSelectClip
    vDuration=sprite(gExchangeMember).member.duration
    if gLength=1 then
      vSelectIn=0
      vSelectOut=vDuration - 10
    else
      vSelectMin=(vDuration - 10)*gLength
      vSelectRange=(vDuration - 10)-vSelectMin
      if vSelectRange < 1 then vSelectRange = 1
      vSelectIn=random(vSelectRange)
      vSelectRange2 = vSelectRange - vSelectIn
      if vSelectRange2 < 1 then vSelectRange2 = 1
      vSelectOut=random(vSelectRange2) + vSelectIn + vSelectMin
    end if
    vSelectDuration=vSelectOut-vSelectIn

    gTotalDuration=gTotalDuration+vSelectDuration
    member("durationField").text=string(integer(gTotalDuration/60))
    vSelectString=vSelectClip && integer(vSelectIn) && integer(vSelectOut)

    -- in edlMember schreiben
    put vSelectString&RETURN&numToChar(10)into line(member("edlMember").linecount)
of member("edlMember")
end if

end
```

INSTALLATION ARCHITECTURE

The presence of all kinds of electronic displays is an essential part of contemporary architecture. This new "screen architecture" already has its classics (for instance, Prada store in NYC by OMA/Kram, or Facsimile project by Diller + Scofilio) but since in the near future every surface may become an electronic screen and/or a working computer, we are just at the very beginnings of what promises to become a whole new field. Working on a smaller scale of a media installation, many artists (Gary Hill, Doug Aitken etc.) explore the similar issues of space/screen. The difference between two practices lies in the emphasis between the two elements: architecture and display. Architects' first priority is to cover up and organize physical space; displays are typically treated as additions to this space. Media installation artists usually proceed in the opposite direction: they start with images in space and then they construct some structure to organize viewer's interaction with these images.

Soft Cinema installation is a small experiment pointing towards the possible future when the merger between architecture and media would require us to have coherent strategies to deal with the new surface/screen. The following pages present the designs of a number of people who participated in this experiment. I initially proposed a concept that separated installation space into different areas each characterized by a different viewing regime. Gradually, what was at first basic boxes became the focus

of the design. Andreas Kratky suggested that the boxes should contain both solid and transparent areas and that the later should wrap around the edges to create an interplay between the outside and inside space. Jason Danziger further elaborated this idea by introducing a system of proportions based on the same algorithm used in screen design of Soft Cinema; he also made a link between different types of images used in Soft Cinema movies and different materials to be used for the boxes construction. Ruth M. Lorenz reworked the design to make it work within the constraints of space and budget. Finally, we present three alternative designs by Andreas Angelidakis: first two are his interpretations of the "FUTURE CINEMA" theme while the third is a reaction to my description of Soft Cinema installation as "suprematism for the lounge generation."

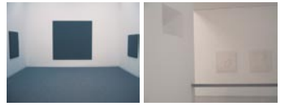
To summarize, this is the final concept for "soft cinema architecture" used both in the installation design and the design of this book:

Referencing "brandscaping" (the three-dimensional design of brand settings), early algorithmic computer art, and the logic of modernist art movements (in which painting, graphic design, architecture, and industrial design were typically driven by a single aesthetic system), we used the same algorithm to generate the screen layouts, the layout of the Soft Cinema book, and the 3D layouts of the Soft Cinema installation. If Le Courbusier's system of proportions was based on the dimensions of a human body, our system takes as its origin the dimensions of a DV NTSC image: 720 x 480 pixels. In addition, the contrast between various types of images (video, 2D animation, etc.) used in Soft Cinema movies is translated into the contrasting materials used in the installation.

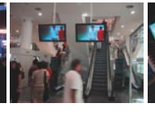
Soft Cinema installation
at FUTURE CINEMA exhibition,
ZKM 2002–2003
(photos: Franz Wamhof)

Analysis

Today, the white gallery box still often
space of traditional aesthetic contemplation:

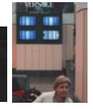


Quite different from the aggressive, surprising,
overwhelming spaces of
a trade show floor,
a club,
a boutique,
an airport,
or a retail/
entertainment area of a major metropolis

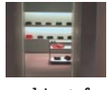




Both the gallery cube and the black box of a movie
theatre require the viewer to completely focus
on the image, to be silent, to suspend all other
activities.

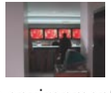
In contrast, people in public spaces experience electronic
screens on the move,
sometimes focusing their attention,
sometimes treating the images as a kind of
ambient visual music.

glance; focus
a quick glance to scan the display, followed by an analysis
with complete focus of attention–for instance, checking an
airport display for one's flight or a cell phone display for new
messages.



examine; study
a focused but leasurely examination of an object-for instance,
shopping.

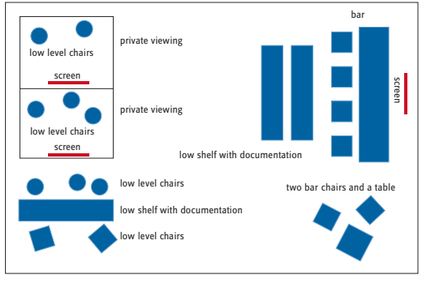


background viewing
"ambient" (background) perception of an environment, screens
or objects–while your focus is somewhere else–for example,
watching screens in a bar while engaged in a conversation.

Installation

Soft Cinema addresses this new function of moving images in contemporary culture. The installation design references typical public spaces where people are confronted with informational/ambient electronic displays–a waiting area of an airport, a lounge, a boutique.

The installation space is broken into a number of areas, which refer to different modes of perception in contemporary interior public spaces.
Rather than expecting the viewers to adopt a special "aesthetic" mode of perception (complete and sustained focus), they are invited to watch the movies using the same variety of modes they employ in everyday life.



Jason Danziger_think/build group

A short introduction to Soft Cinema's Architectural Principles

In order to generate an installation architecture tuned as closely as possible to the aims of the Soft Cinema project, three basic principles are pursued: 1. integrated use of the same Algorithm to generate 3D spaces as well as 2D layouts and time-based experiences; 2. scaled Transparency to allow the films to annonce themselves from a distance, and 3. active use of Density and unflolding of a spatial elements to blur the experiencial boundaries of the installation.

1. The Soft Cinema Algorithmic/Architectural Translation Concept

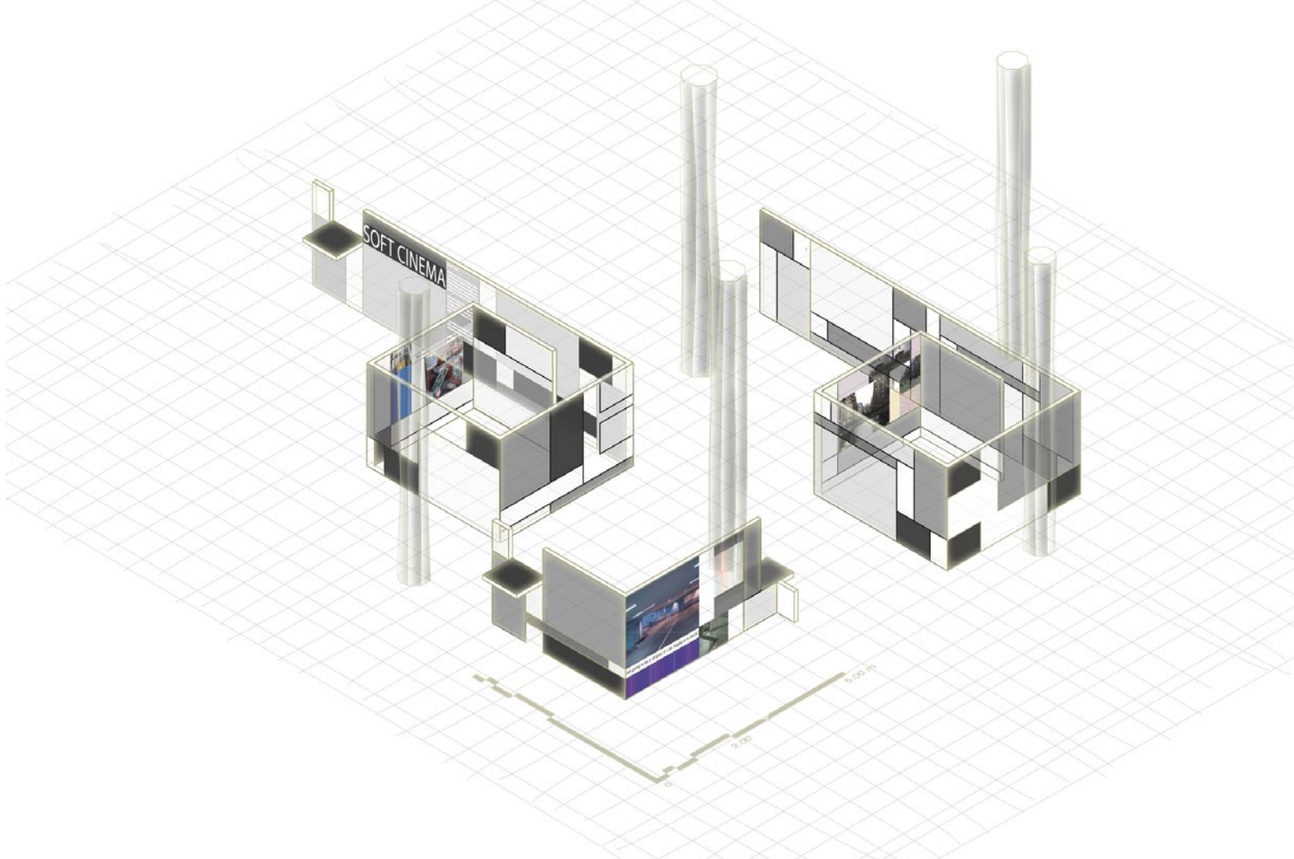
As described elsewhere in this book, as the Soft Cinema software generates its edit lists, it also generates a series of patterns controlling the layout of the screen. In order to translate these patterns into an architectural space for the installation of the project, a simple rule is used: 1 pixel = 5mm. Systematic application of this base rule produces a series of modules which are then used to measure out the space of the installation and generate the physical forms of the project. Thus the Soft Cinema algorithm begins to generate the spatial diagram of the installation and its forms as well as its time-based cinematic experiences.

Direct translation of the NTSC screen, 720x480 pixels, generates the base human-scale wall-module, 3.60x2.40 m. This module is used to build all the walls of the project and to fill the walls with a series of materials recalling the layering of images generated by the Soft Cinema database. In order to assure three-dimensional fluidity of form and an optimized spatial experience for the visitors, subjective (intuitive) design interventions enhance the algorithmic diagram, allowing some design freedom in the specific selection of patterns from a pre-generated database of form-patterns.

The table below provides a series of sample dimensions generated using this rule. Three units are built for the installation. Units A and B are partially unfolding

Dimensioning Table

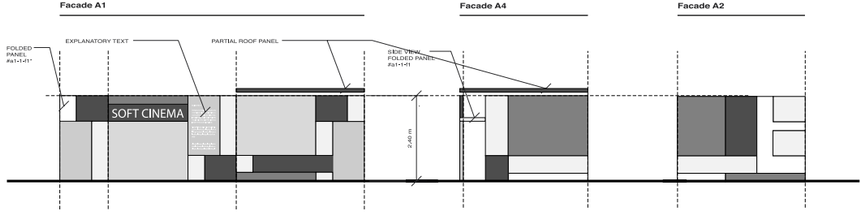
pixels		meters	
720	480	3.60	2.40
448	336	2.24	1.68
448	96	2.24	0.48
180	144	0.90	0.72
180	336	0.90	1.68
448	48	2.24	0.24
272	480	1.36	2.24
272	480	2.85	2.24

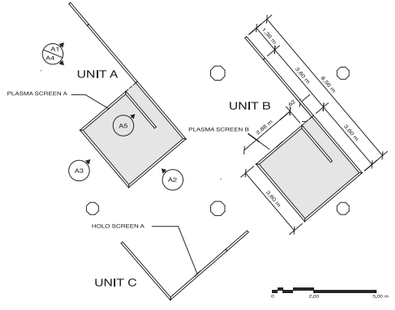


"boxes" 2.40 m high with enclosed roofs. They contain plasma screens showing Soft Cinema movies. Unit C has no roof but is instead an open system, seeming to "break apart." This unit features a large translucent screen which reveals the Soft Cinema images from all sides. Inside all three units are a series of "couches," or lounge-objects, designed to invite visitors to relax and experience Soft Cinema within the confines of the installation.

2. Transparency in Projected Light Installations

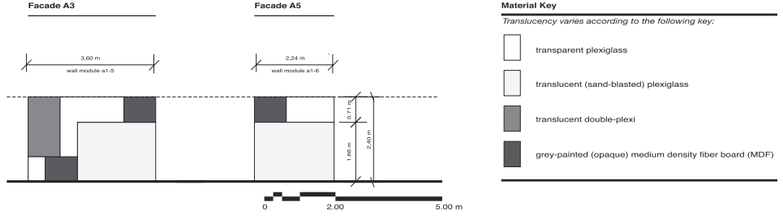
Often in projected media light installations, a darkened space is established through the construction of isolated spaces with black walls. The visitor must go "inside" a box and therefore traverse a physical boundary, usually either a curtain or a light tunnel. Metaphorically, the visitor enters Plato's cave, in this case a modern ritualized space with a particular set of behaviors and expectations. The Soft Cinema installation attempts to question this paradigm, through blurring the boundary between being "inside" or "outside" of the box. Multiple levels of transparency and translucency allow the visitor to perceive Soft Cinema from various distances essentially through the walls of the cave. The notion of "Outside" becomes relative, evolving into an alternate - "blurred"- or softer - experience of the whole project. In this way Soft Cinema announces itself gradually, allowing diverse levels of visual and physical engagement by the visitor.

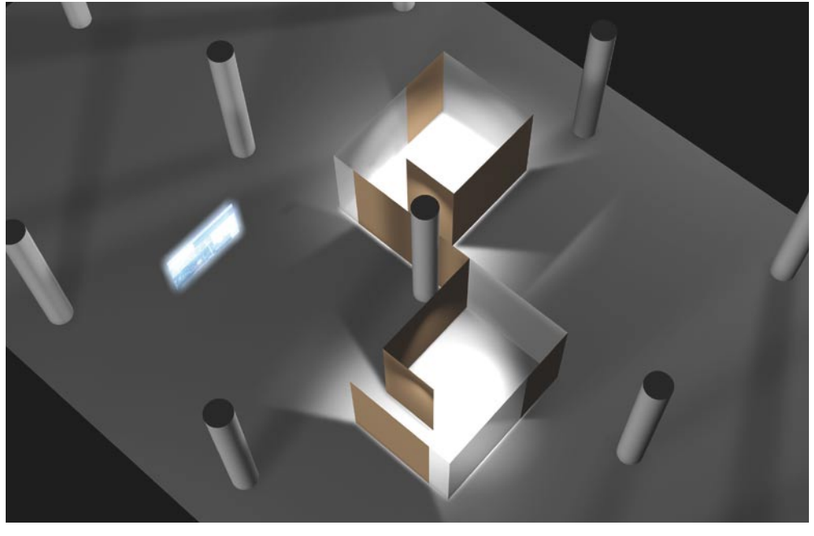


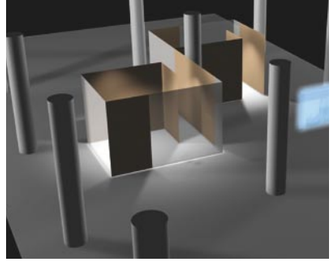


3. Zone/Spatial Definition Elements as a {density-driven} Cinema Support Device

The unfolded nature of the plan also allows unhindered access; one passes slowly inside the box, experiencing only an intensification (densification) of Soft Cinema rather than the more common binary theater paradigm of on (inside) vs. off (outside). This idea of a "densification" of the Soft Cinema-experience is further supported by the repetition of form (two semi-open "boxes") along with a third form, recalling the first two but which is itself engaged in a process of opening, or breaking apart. This open system allows the active integration of "accidental" elements such as existing on-site columns, etc., utilizing them to the advantage of the project by borrowing their space-generating characteristics. Construction details, (physical connections and structural elements) within the structures are designed so as to minimalize the boundaries between the screen and the material. Light in motion is thus given the chance to define space as well as suggest narrative and time; pixels are brought into confrontation with the body of viewer; and one begins to question whether Soft Cinema exists only on a screen.







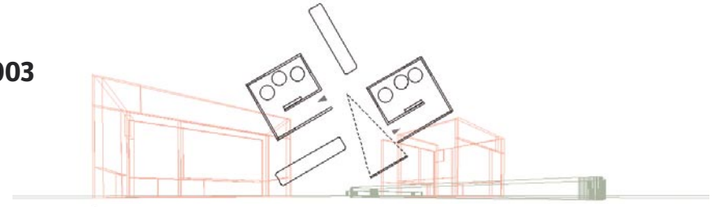
Andreas Kratky

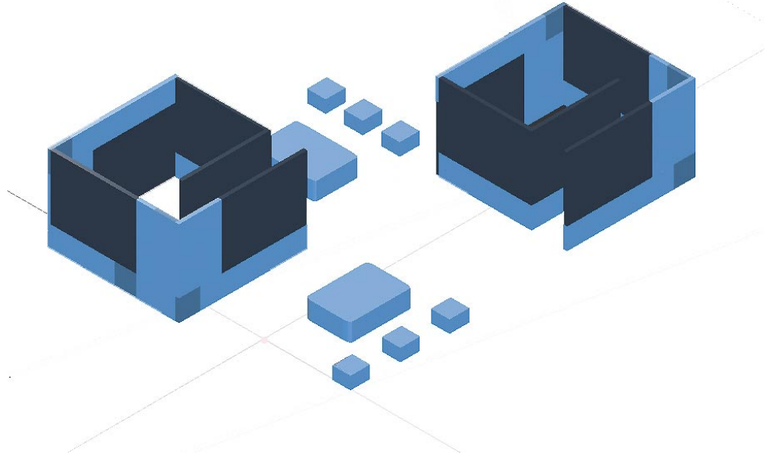
Design Sketch for the installation of Soft Cinema in the FUTURE CINEMA exhibition

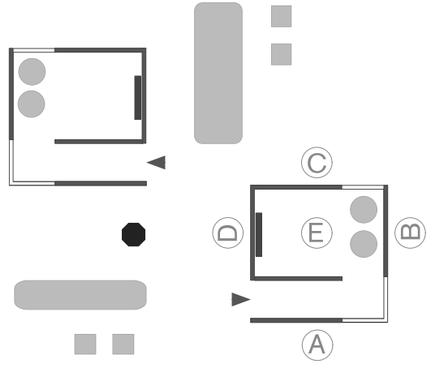
Two private viewing spaces are connected to one architectural unit that forms the center of the installation and opens into the exhibition space. The viewing spaces are enclosed by boxes of 3.6 by 3 meters made of two different materials. One of the materials is opaque and provides privacy and shelter, the other one is a transparent material that allows the internal light inside the boxes and the projection light to spill out into the surrounding space. The boxes provide sound insulation so that the viewers inside are not disturbed by other pieces and do not emit sound themselves. The surrounding space is equipped with low level sitting furniture and a projection screen without sound. The layout of the space as well as the walls of the boxes are designed following the same algorithms that are used for the screen layout of Soft Cinema.

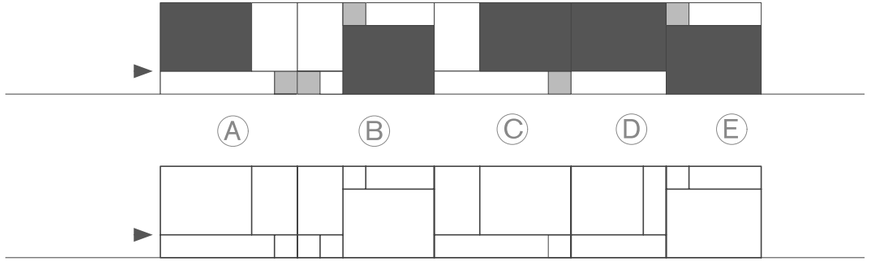
Ruth M. Lorenz_maaskant

Soft Cinema installation design for FUTURE CINEMA exhibition, ZKM 2002–2003

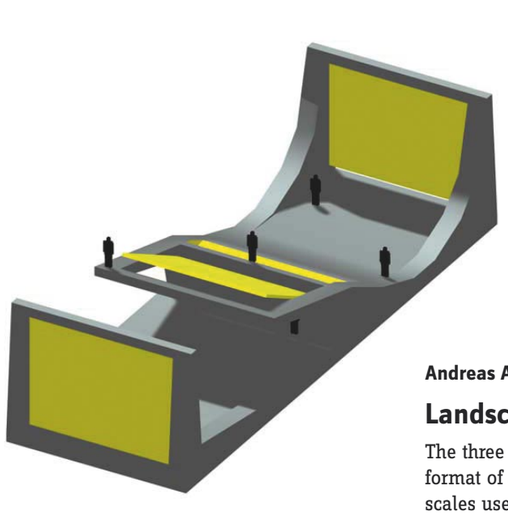


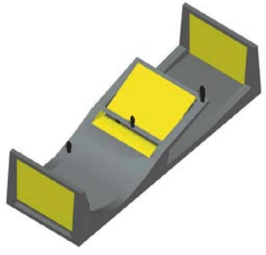






Version 1 A linear scheme. Visitors can watch the films walking, sitting or lying down.





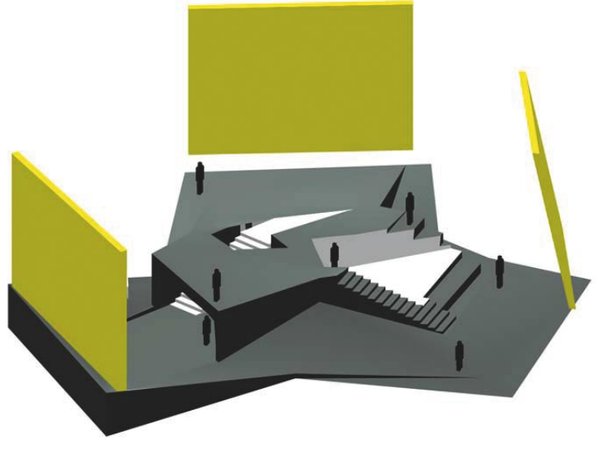
Andreas Angelidakis

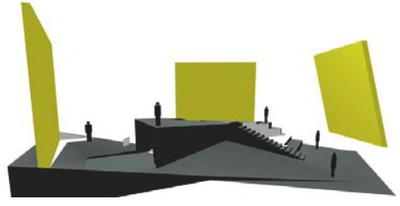
Landscape for Soft Cinema

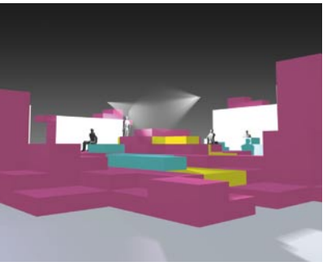
The three short digital films will be presented in one urban landscape, referencing the format of a monument. Different scales will be incorporated to serve as the different scales used in films, ranging from situations of intimacy to urban conditions. Large screens
(rear screen projection) will provide the main enclosure, while multiple entrances will allow for continuous circulation. The Soft Cinema Space will include viewing points, seating areas and movement plateaus.

The installation will attempt to project the concept of each film onto a spatial solution, while presenting the Soft Cinema project on a heroic scale.

Version 2 A landscape with variety of viewing points organized as spaces and plateaus



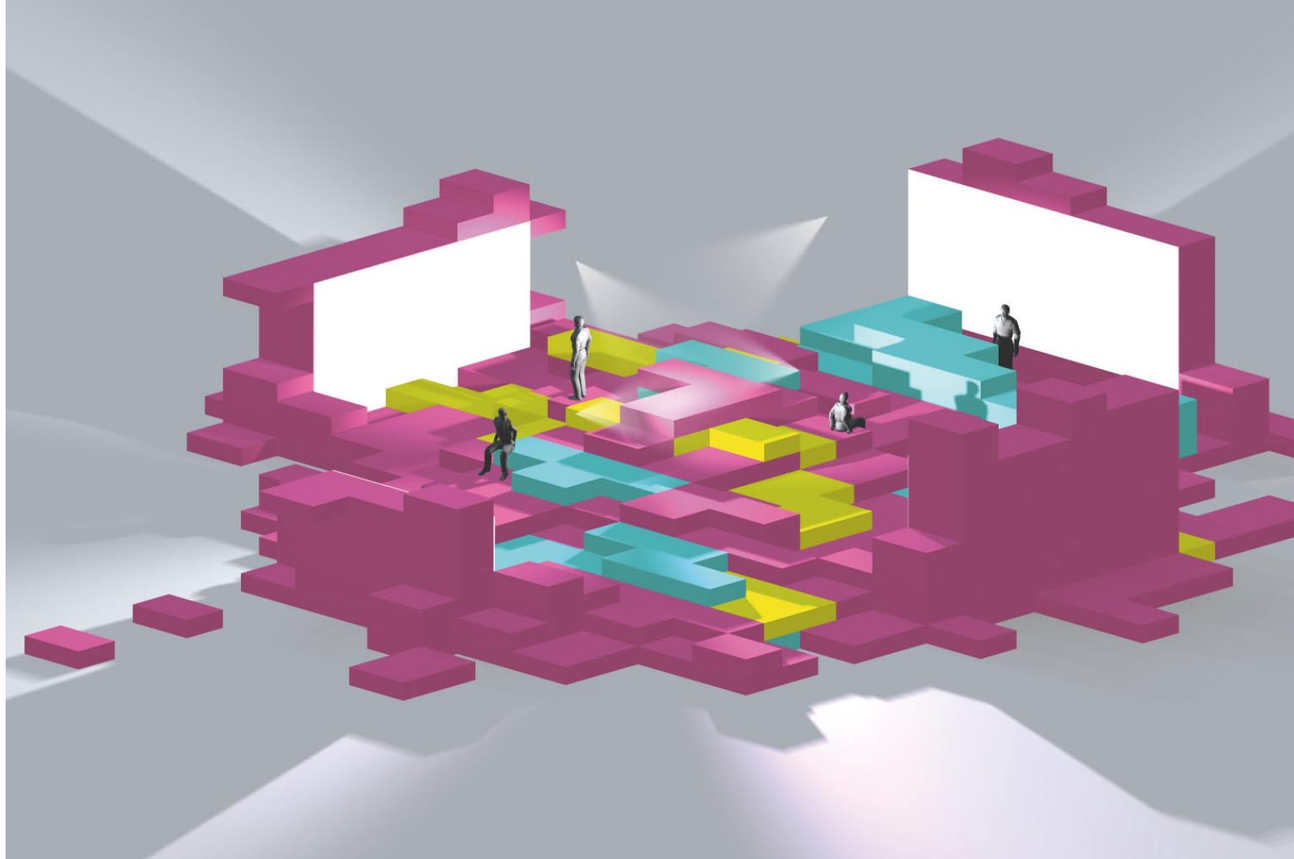




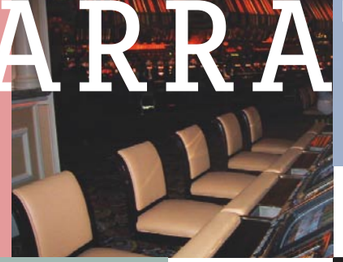
Tetris Mountain

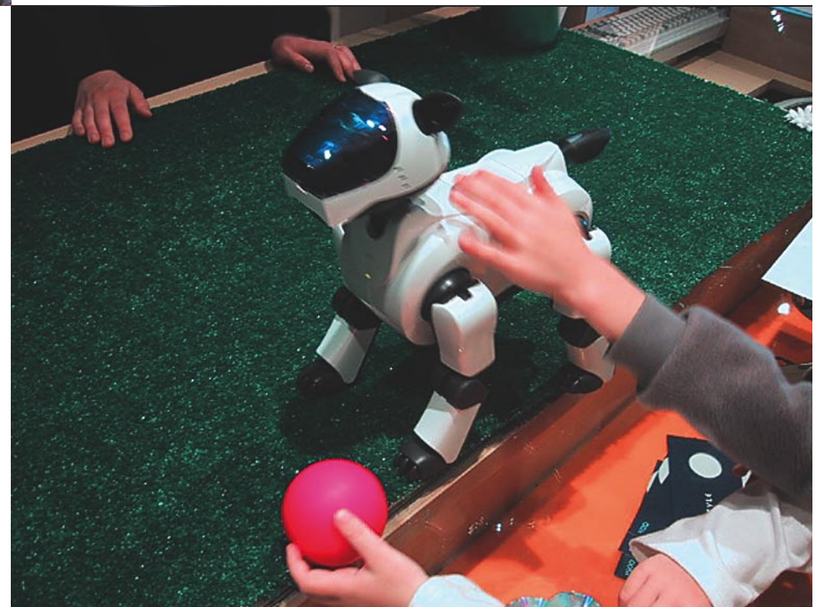
Tetris Mountain is the space for Lev Manovich's Soft Cinema.
Tetris Mountain is based on a modular system of oblique 3D pixels, configured as the result of an unfinished game of Tetris. Tetris is the most elemental form of software architecture, a kind of pixel suprematism where the building blocks fall continuously, guided into place by the user. It is a game that can be played on any scale, from a cellphone screen to an urban projection.

Here the blocks are made up of two materials, wood and foam, used for stepping and seating. As the pieces fall into place they create a mountain in the center surrounded by four screen surfaces and four entrance points. The mountain is a four way cinema lounge, inhabited much like a fountain attracts tourists to look at the city. The space is malleable and infinitely expandable.



NARRATIVES

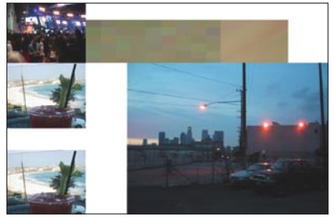




Texts used for voice in some Soft Cinema movies come from Global User Interface [GUI], a collection of short stories I have been working on since 1998.

Each story takes place in a different location: Texas, Hamburg, Kiev, Mongolia, etc. (In writing the short stories, I tried to follow the principle that they can only be set in locations that I have never visited.)

Typically, a story has been divided into a number of sequential parts, each part becoming a short movie. At the beginning of each movie, the software generates a new screen layout, which can be comprised of two to six different windows. Soft Cinema also selects which video clips and animations will play in these windows and in what order. This process is repeated for each part of the narrative. Following the same modular logic, different voices are used for different parts of each story.

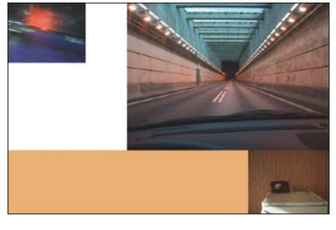


Texas

from Global User Interface [GUI]

The Chinese waiter straightened the napkin, which was hanging over his right arm and leaned against the stucco wall. It was very hot, so hot that outside the restaurant one could see individual particles of dirt hanging in the air. A few hundred particles, sometimes even a thousand or two thousand were stuck together forming dirt crystals. These crystals were hanging motionless in August air. Once in a while the edge of the crystal would catch the sun and reflect it right into your eye, making you blind for a fraction of a second, as though it was not a pocket of summer of dirt, but a tip of wave, a cool wave somewhere far away, in California or Hawaii. But more often that not, the crystals were simply hanging in the air, motionless; maybe they would move an inch every couple of hours, but that's about it.

The waiter felt the drips of sweat on his back. It was about two and the restaurant was completely empty. The waiter–his name was Mike–took out an English textbook from the counter and opened it to page 8.



Sitting behind the counter was a Chinese girl, very young, maybe not even 20. She was wearing a white blouse and a black skirt. She was starring into the window. In front of her was a piece of paper with a few marks arranged in two columns. She was passing time by counting the passing cars. Each car of American make got a mark in the left column, while each car of Japanese make got a mark in the right column. Today was Thursday and she had started the list on Monday. So far she had 3 marks on the left and 4 marks on the right. She would rather listen to the music on her walkman, but the manager didn't allow it.

Mike leaned over to take a look at the list.

"How come you have 4 on the left. That's too many. Are you counting that Acura that passed yesterday? Don't you know that General Motors bought it a while ago?"

The girl looked at Mike with suspicion.

"You're just trying to screw my count. I don't believe you. Bring me some proof!"

Mike went back to his textbook. The girl must be loosing it from all this heat! "Anyway, what are you going to do when you get your degree?"

The girl was a student at the American International University in San Francisco. Waitressing was her summer job. Her father, a businessman in Sydney, insisted that it was the best way to build character and he threatened to cut her allowance if she did not do it, so she had no choice. She didn't mind it that much, other than this heat and the fact that she couldn't listen to her walkman at work.

She looked at Mike. "I have not decided yet. Either I am going to be a stripper in Las Vegas or a stockbroker in New York. The pay is the same, but as a stripper I will have lots of free time, I would only have to work a couple of hours a day. Whereas as a stockbroker, I'd be working all the time. But Las Vegas can be very hot, even hotter than here."

"Why can't you be a stripper somewhere else, say Hong Kong, or Paris, or Los Angeles?"

"In Las Vegas you get better benefits than any other place. I already checked into this. You get excellent medical insurance and the dental plan is unbelievable. You can a cleaning once a month. And the dentists there have the very latest equipment: laser drills, holographic imaging, fillings with micro-processors."

Mike was considering whether to continue the conversation when they both were distracted by the sound of an approaching car. The car–it was a large silver Jeep Cheroke–pulled up along side of the restaurant and stopped. Its movement disrupted numerous dirt crystals, which were hanging outside the restaurant. Now they were moving in all directions, colliding with each other, forming even larger crystals, sometimes as large as a tip of a match.

"4. Even!" The girl added another mark to the left raw.

The door opened and the couple from the Jeep walked in. The man looked at the waiter and then at the girl behind the counter, wondering whom he should ask.

"Where can we sit? Can we sit down there at the table below the fan?"

"Are you going to be having lunch?" asked the girl. "The tables in this section are only for eating customers."

"I just want a beer, what about you, babe?" The man looked at the woman.

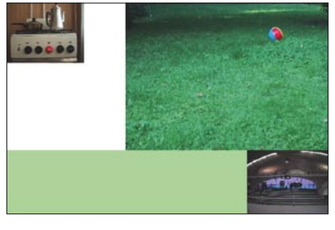
"I guess a will have something, maybe some General Tso Chicken. You have this?"

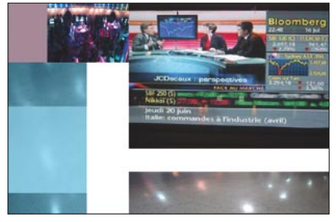
"Sure," said the girl.

"Do you want a beer as well?"

"No. Bring me one Sprite, One Coke–Super Classic, regular–make sure it's not Diet, and one 7-up."

The couple proceeded to the back of the restaurant taking the table right below the wall fan. They were the first customers in the restaurant since Tuesday. But this was normal. The restaurant relied on three main sources for most of its business. The first was a group of Georgian mafia and local businessmen from around the State, which met there once a month. The restaurant would be closed on that day; the mafia paid generously for this. Depending on the season they would be negotiating the sales of arms–mostly army stealth helicopters and inter-galactic rockets, but sometimes also smaller stuff like personal rocket launchers, machine guns and psychotropic gases. The second source was a big group–30 or 40 people–from the retirement home in a town twenty miles north. They would also come once a month, play bingo all day and then have a big dinner. The third source was Mobil, which held monthly retreats at the restaurant for its gas station workers. Between these





three groups the restaurant made enough to stay in business, so occasional customers did not count for much.

The waiter brought the drinks to the table. The man took a big sip and then began to study the label.

"Wow, this is really cool! Babe, do you see? This beer was bottled at this famous plant in Poland. I mean all beers, regardless of the kind, are made in China, but they bottle them in different places, and this plant is supposed to be very famous. They have special platinum pipes and they also use equipment from the old Soviet space program. Man, I have been drinking this beer for years all over, but I never came across the ones bottled at this plant!"

The woman did not answer. She was busy mixing her own drink: one third Coke, one third Sprite, and one third 7-up. She finished, took one sip and reclined in her chair. The mixture always had the same effect on her, bringing back happy memories of her childhood in Sweden. For a few seconds she saw very vividly a snow covered plain outside their house. She is small, maybe 4 or 5 and she is standing outside their house looking at the snow. She is making a snowball. Her father comes out from the house and starts preparing a horse carriage for a trip to the city. He turns to talk to her...the picture got blurry and faded. The woman knew that taking another sip would bring back another memory, but she wanted to first savor the one she just had, so she just sat quietly for a while.

The man, meanwhile, was busy playing with his cellular phone. For the past two days of their trip he had been trying to program his name into the phone. He went through all of the 36 different menus, trying every option, but he just could not find the right one. He did not have the manual, which was as thick as a phone book. The manual probably explained how to do it. He decided to go through all the menus one more time. It was nice sitting in this restaurant, sipping a cold beer from the famous plant in Poland, playing with his cellular phone.

"Why don't you call the tech support number," asked the woman.

"I am sure they can help you."

"I called twice already. They had no idea. They said that the software for the phone was made by some other company in India, but the company in India sub-contacted part of the software development to Bangladesh. So it became really hard to track down. They said they would get back to me."

"And?"

"They still haven't."

"That sucks."

"I know."

The woman took another sip from her glass. A different memory came now, one where she is a little older, 7 or 8, and she and her parents are living in Korea. They moved there after her father lost his job on the fishing boat because of his accident. Her mother was born in Korea; she and her father met in Norway in the early 1960s. Her father went there to visit his relatives one weekend and he met her mother, who was part of a women's chorus visiting Norway. They fell in love and moved to Sweden. So after father's accident they decided to go back to Korea where she has family. The memory, which came now, was of a small market in the village where her mother and she would go every day to buy food. She is holding her mother's hand as they slowly move through the market, buying fresh fish and rice. She is looking at the faces of the old women selling food; they look ancient as though their wrinkles were carved into stone. One of them is smiling at her; she calls her...the memory faded.

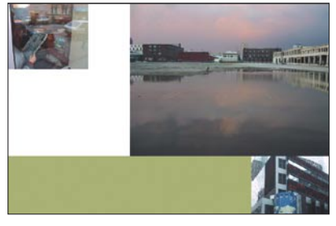
The woman was about 30, medium build. She was wearing Levy 555 jeans, a T-shirt and large sunglasses. The man was the same age, maybe a couple of years older. He was also wearing Levy 555 jeans, and a Hawaiian shirt. He also had sunglasses, but he put them in his shirt pocket because he was sitting with his back to the sun.

"So what did you think of Johnson's presentation?" he asked the woman.

"I liked it. His graphs looked really neat, with those animated numbers. I really liked the one with the world map and the sales figures for all the key 8 regions."

"I don't know. For me it was too glitzy."

"And he looked pretty sharp. I liked his tie."



"You just have the hots for him."

"I do not! But you were all over Susan at the evening party. The way you were leaning over her so you could see her tits."

"I did not! Where did you get that idea from?"

"Come on, I saw it. You were standing with her and also with this other woman, what's her name...Mary, she is the PR manager for the Pacific division. And you just kept looking down Susan's dress. That was so obvious."

"I am just trying to stay on her good side, because the annual review is coming up, and I really want to get a nice raise. I think I'll get it, because my sales for the last quarter were very pretty good, 8% above the division's annual norm. If I do, we can add a patio to the house and also take that cruise we always wanted to."

"Well, you better keep your hands of her, otherwise you will be going on that cruise alone." The woman took another sip from her glass and closed her eyes for a few seconds.

Underneath the table there were few pieces of old gum glued to the underside.

"Anyway, was your father or your mother ever unfaithful to the other?"

"My mother," said the man. "My father was half Chinese, one quarter Russian and one quarter something else, I don't know. After the War he became an engineer and eventually ended up working on a nuclear sub. He took me there a couple of times when I was very little. It was pretty wild and scary, this sub. I think it was made in France in 1958. There wasn't much space for people; you couldn't even fully stand up. It is hard to believe that people would be down there sometimes for six months without ever coming up to the surface."

"So anyway, during the Cuban Missile Crisis the sub was patrolling the waters around Cuba, since China and Cuba were friends."

"What was the Cuban Missile Crisis?" asked the woman.

"I don't know myself exactly. I think the Americans discovered that Cuba had Russian missiles, which could have reached America and they almost had a war. It was in the late 1960s. So anyway, the sub was patrolling the waters and it was pretty close to the surface. The Americans discovered it and they decided to test specially trained dolphins against the

sub. A number of dolphins swam toward the sub, surrounded it and started to omit special ultrasound frequencies. As a result one of nuclear reactors on the sub blew up. Everybody got big doses of radiation."

"And your father?"

"And my father. But he did not die. He spent a while in the hospital though. He became completely bald."

The bright sun shining through the window was casting sharp shadows off the small vases decorating each of the tables in the restaurant. For some reason one of these shadows was at a very different angle than the others. Otherwise the shadows were normal.

The man took a napkin and wiped the sweat from his forehead and neck. Then he took another sip from his beer bottle. He continued:

"So, my father came back from the hospital. He was almost completely OK, but he no longer could have sex. So after a while my mother got a lover, a younger guy. He had been to the village a few years earlier during the Cultural Revolution, and then he stayed on there. Their affair went on for two years. Eventually my father found out. But what could he do? This was before Mao died, so he could not do anything against the guy. And the worst of it was, they worked at the same factory, so he had to see the guy every day."

"And you mother?"

"First she got scared, but than she realized that nothing is going to happen. So she took another lover. He was a party member send to the village to do Ideological Education."

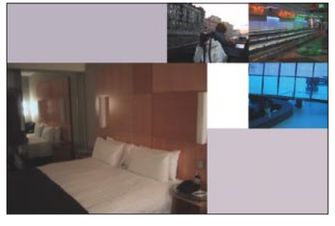
"What's Ideological Education?"

"Like explaining politics and stuff, I think, I don't really know. Anyway, he would bring my mother special food rations, and she would share them with me and my father, so everybody benefited in the end."

"Your father was not angry at her?"

"Of course he was, at first. But after a while he got used to the situation. After all, after the accident and the hospital he was rather weak and my mother took good care of him."

The woman took a mirror out of her purse and checked her makeup.



"Am I pretty?"

"Yes."

"Prettier than Susan?"

Yes, much more. Susan just hasnice tits, but that's about it. While you are pretty all over."

"Prettier than your mother?"

The man laughed and took another sip from his bottle.

The dirt crystals outside the restaurant got bigger. A few now reached the size of a child's palm.

"Do you think we should move some money from the Fidelity fund into bonds?"

"Why? The Fund is doing fine this year."

"Yesterday, I read in the paper that they forecast it will slow down in the next six months. The Fund manager is going through a bitter divorce and they think it will affect her performance. So they think that in about 2 months it will slip to 7.5%.

"Really? In that case we better do it. Was there anything else important in the paper?"

"Sears environmental index went up to 11.3. Lets see, what else...another small war in Central America. Moscow Disneyland is scheduled to open on September 1. There is a 60% off sale at Macy's this weekend."

"60%? That's good. Shall we get new blinds? And what about that treadmill I've been wanting for a long time?"

"You only get 60% if you buy at least two items, which start with the same letter. So we will have to choose. It would either have to be the blinds and...a blender or baby carriage. Or, the treadmill and say a tune-up for the car."

"We just did tune-up two months ago. But we can use a new blender, the one we have only has 6 speeds. The new ones have 8 speeds and you can also program them so they make different sounds. It's cool."

"OK, lets get the blinds and a blender than."

The crystals outside got bigger. No longer still, they were now slightly moving back and forth like pendulums.

The Chinese girl took the dish of General Tso Chicken from the microwave and gave it to the waiter who brought it to the couple's table.

"You are OK?" He asked. This was the way he inquired whether the customers were happy. His English was still not too good, and given the scarcity of customers in the restaurant he did not get much opportunity to practice. He was thinking of getting a second job at the Mobil gas station so he could get more practice speaking English.

"Are you OK?" asked the man looking at the woman."

"I am OK. And you?"

"Fine. We are OK."

The waiter put the dish in front of the woman.

"Can I have chopsticks?" she asked.

The waiter went to the front of the restaurant to get the chopsticks.

"Do you think Mary is a lesbian?" asked the man.

The woman finished chewing the piece of chicken she had in her mouth. She took the bottle with the soy sauce and poured some over the rice and the chicken.

"You mean the Mary from Marketing? Why do you think that?"

"I don't know, just the way she is. The way she is always wearing suits and stuff. And her short haircut. And why she is commuting from San Francisco? That's pretty far."

The waiter brought the chopsticks. The woman put a piece of chicken in her mouth and started chewing it. She was thinking.

"The commuting argument makes sense. But maybe she has a house there she can't sell or something like that."

"I think she is. Monday morning we had our weekly meeting, and she kept looking and looking at this new girl, Kate or something, the one who got hired last month. It was weird."

The woman kept eating. She did not take of her sunglasses, so the pieces of General Tso Chicken looked purple, almost violet. But they tasted OK after she poured some soy sauce over them.

"Do you think I need to lose a few pounds?" she asked the man.

Suddenly there was a sharp sound of a broken glass. One of the dirt crystals–they were now the size of a large grapefruit–crashed against the glass door of the restaurant. The glass cracked all the way through, but didn't break apart. More similar noises followed as other crystals attacked the restaurant's windows.

The waiter and the girl looked at each other.

"Call the fire department," said Mike. He looked really worried. "And the sheriff."

The girl–her name was Jenny–picked up the telephone.

"The phone is dead."

More sharp noises followed. One of the windows broke and large pieces of glass fell on the floor of restaurant, breaking into many small pieces. Then another window shattered. And another. Jenny stood motionless, the phone in her arm, starring at the crystals as they moved inside through the broken windows. A really strange smell filled the room, and this was the last thing she felt.

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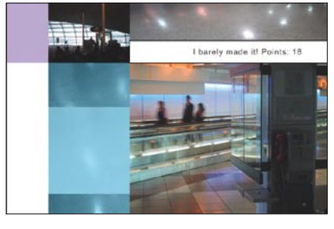

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