VIRTUAL SPACE

creating a digital sense of place

Software Used | Adobe Products : Illustrator, InDesign, Photoshop, Encore, After Effects
3d Studio Max Design, SketchUp, Google Earth

PROBLEM STATEMENT

Current methods of visual representation of built environment design lack user interactivity and engagment.

NEW MEDIA TECHNOLOGY

Previously in the field of landscape architecture it has been either too time consuming or too difficult to create convincing visual representations of large scale urban designs. While new forms of hybrid drawing methods have been created to show landscape design traits, they're integration with the overall big picture is often disconnected. This research attempts to bridge the gap between previous methods of representation in the field, and new forms of media to more effectively present our work.

Technology advancements have allowed for various types of new software to be adapted for use in other fields; by embracing this idea it would allow a wider range of recipients the ability to experience new proposals. The result will be beneficial to the field of landscape architecture by using new media methods to promote and raise public awareness for large scale urban projects. Informative visuals could also be helpful to publicly display projects which deal with environmental issues. Future research could identify more ways to use and promote landscape design through new media, and as technology continues to advance more efficient methods of representation could be found.

RESEARCH QUESTIONS

How can designers of the built environment use new software and immersive technology together to create a dynamic virtual sense of place through the use of spacial navigation?

> CREATING A VIRTUAL SENSE OF PLACE FOR THE BUILT ENVIRONMENT

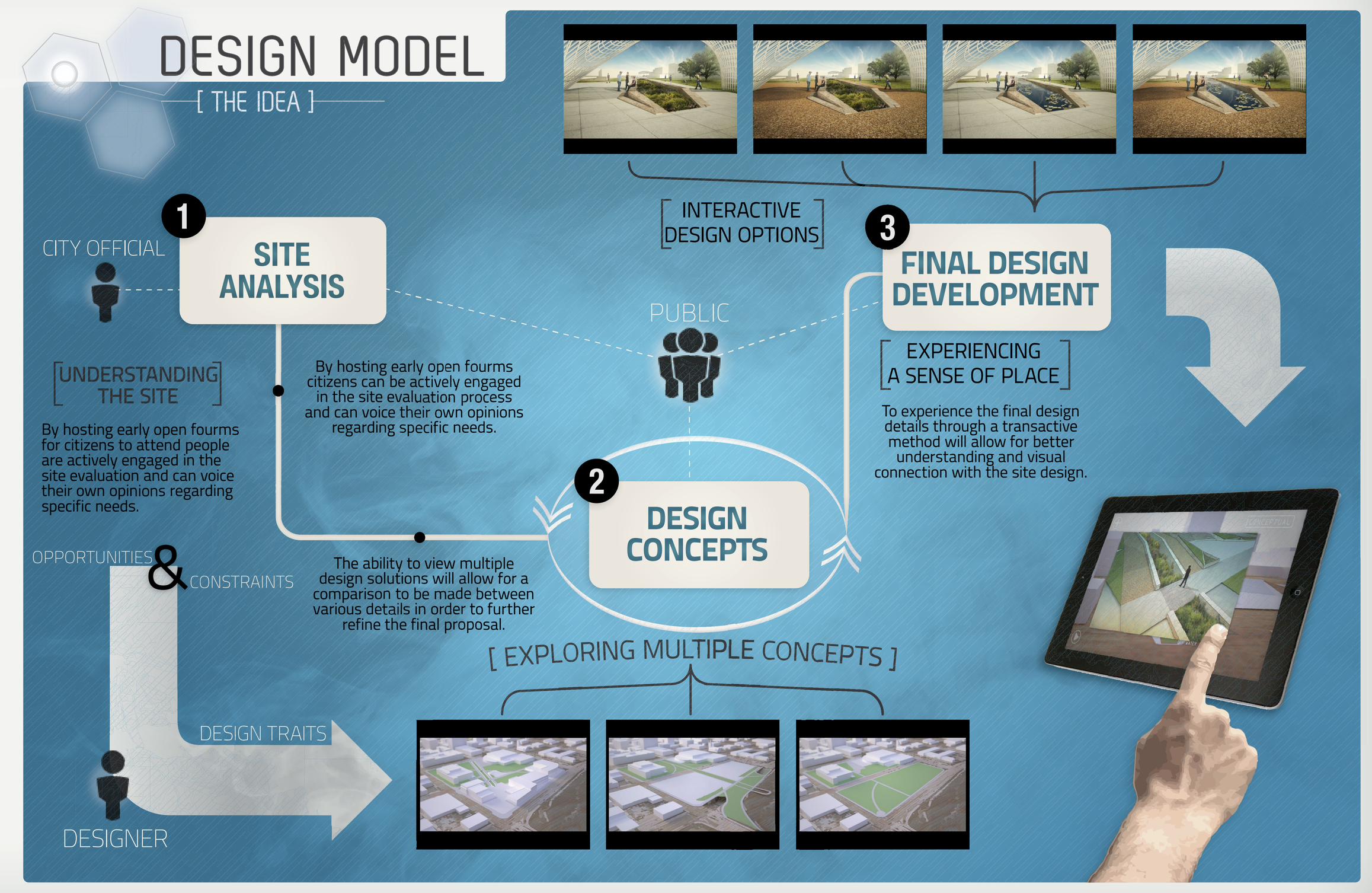
Additionally, how can landscape architects effectively express design traits through a trans-active method to a wide range of recipients using new media?

> ENGAGING THE AUDIENCE IN A TRANSACTIVE EXPERIENCE

DESIGN HYPOTHESIS

By embracing new hybrid forms of visualization designers of the built environment will have the ability to create more widely used and visually engaging graphic presentations.

The art of visualization and representation is going to be pushed even further into the forefront as businesses built around mastery of software and specialty knowledge are going to be pushed to the side. The democratization of visualization throughout the design process is quickly approaching and how you decide to act on that knowledge will mean the success or failure of many in our business.



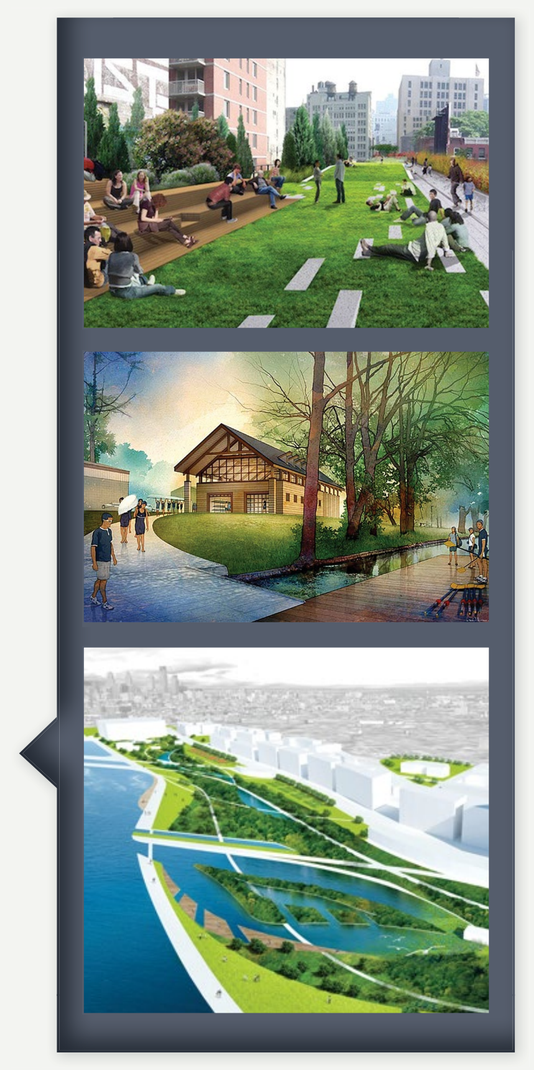
CURRENT TECHNIQUES OF VISUALIZATION

> TRADITIONAL GRAPHICS
SCHEMATIC DESIGN

For every design project traditional graphics are used throughout the process to help designers colaborate and document their work. These graphics are most commonly plan and section drawings, which are notational graphics used to detail and envision 3D space in a 2D form.

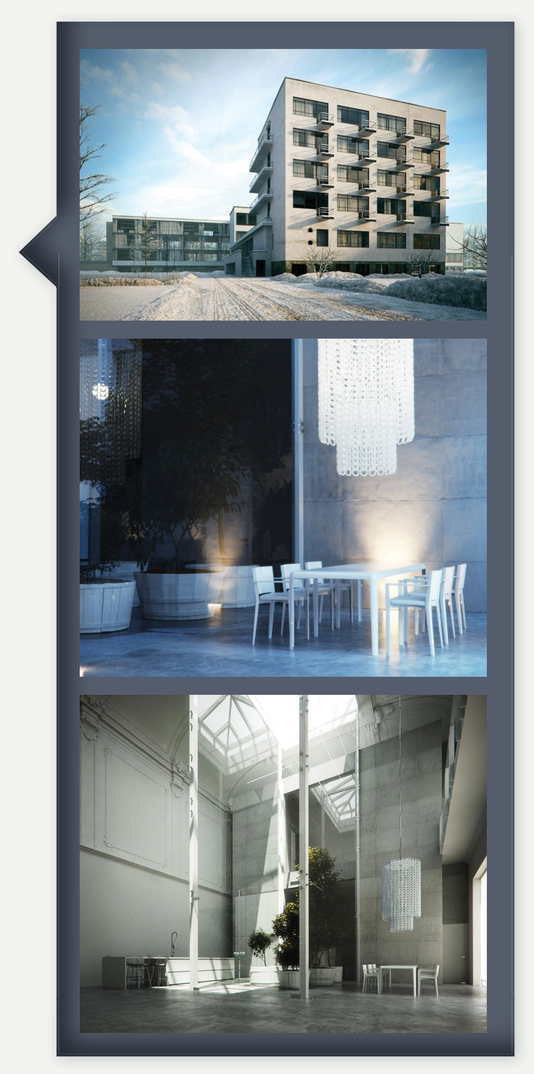
> HYBRID STYLES
CONCEPTUAL + FINAL DESIGN

Commonly used for large scale Landscape Architecture projects, hybrid styles of perspective drawing show design traits and convey an overall feeling for the space being shown. These styles are often mixed media visuals or photo-montages to show a sense of space. This type of visualization does not rely on a high level of detial to achieve realism, but instead on an atmosphere to show the life of a design.



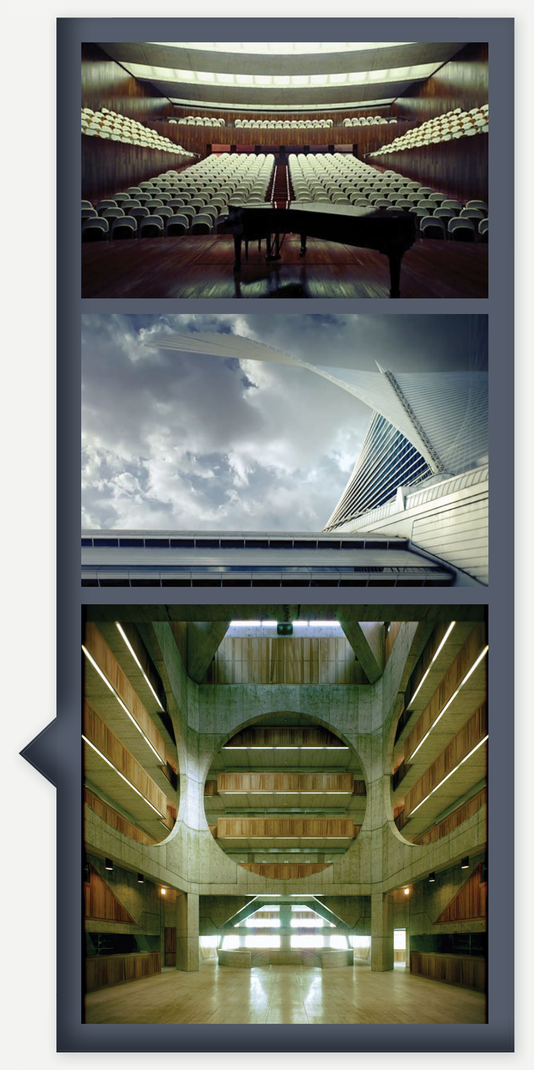
> PHOTO-REALISTIC
FINAL DESIGN

Ultumately the most popular trend in visualization today is achieving the most photo-real renderings imaginable. This type of style focuses on the small details to achieve a extremely high level of realism. The material textures and virtual lighting are highly important in the process of creating these visuals, which makes them very tedious projects to work on.



> ANIMATION
FINAL DESIGN

The most time consuming, yet rewarding method of visualization is photo-realistic animation. This style will display a project through moving visuals and sequences that guide you on a virtual tour of a design. Simple virtual walkthroughs are common for showing designs, but more recent animations emulate cinematic features composed of slow panning shots and lens focusing techiques.



EXISTING SOFTWARE

PHOTO REALISTIC SOFTWARE

3D STUDIO MAX The industry standard for creating 3D models, 3DS Max can be used to visualize highly detialed designs and complex forms using numerous plugins and maxscript modifiers.

MAXWELL RENDER A rendering program that can be used with other 3D platforms to achieve realistic lighting and material textures, most commonly used for architectural interiors.

V-RAY RENDER The most popular rendering engine, V-Ray can be used for many 3D programs. The use of highly detailed material parameters and lighting, results can be extremely realistic.

PS LIGHTROOM Designed specifically for professional photographers, when used for visuals this program can stylize renders similar to processing real photographs.

INTERACTIVE SOFTWARE

AR-MEDIA With AR-media, SketchUp users are allowed to visualize their 3D models using Augmented Reality directly in the real physical space which surrounds them.

BLOOM UNIT A cloud based collaborative rendering technology for SketchUp. Enabling users to render entirely in the cloud with very little cost and screen-share their models directly to the clients.

FUSION 360 A new form of Autocad based in the cloud for collaborating with multiple designers or clients.

FORM-IT Similar to SketchUp, designers who are always on the go can use the application just like a napkin sketch, but facilitate easy integration of the design into a BIM workflow.

TRADITIONAL GRAPHICS WORKFLOW

AUTOCAD The most common program used by designers today, Autocad is used for creating schematic plan views and laying out various design details and construction documents for contractors.

SKETCH-UP A simple 3D modeling tool used mostly for early design stages and massing model studies. It can also be used for more detailed design elements if neccessary.

REVIT A new standard among architecture firms, this program is known for its B.I.M. method. While similar to Autocad, Revit can be used to model complex 3D building infastructure.

PHOTOSHOP Often thought of as one of the most important programs for designers, this highly versitile graphics program can be used to manipulate and stylize various types of imagery.

ANIMATION SOFTWARE

MAYA Similar to 3DS Max, Maya is a more complex program which has more in depth algorithms specifically designed for animation and moving objects.

AFTER EFFECTS This program is often thought of as Photoshop for video files. It is often used to process and integrate layers of animation files together into a seemless sequence.

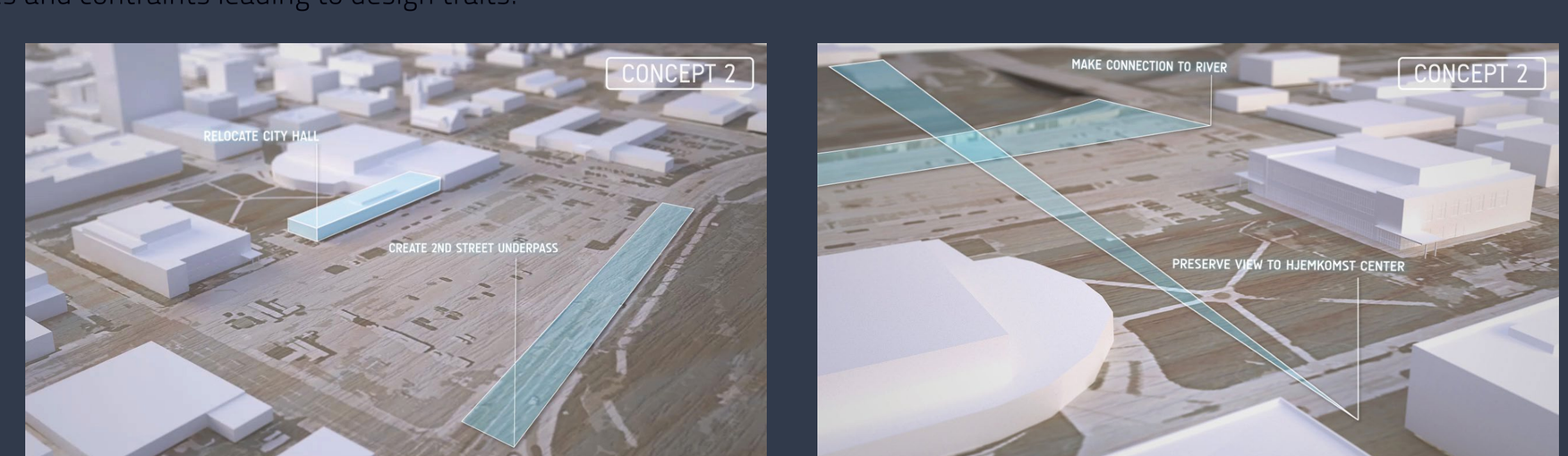
CINEMA 4D A new popular program for environmental designers, its mostly used to render animations with a high level of detail and complex moving geometery.

NUKE Used mainly for integrating animated sequences into film sequences, this program is used by the top level of animation specialists and designers.

PRECEDENT STUDY >>> HYBRID VISUALIZATION FARGO URBAN REDEVELOPMENT

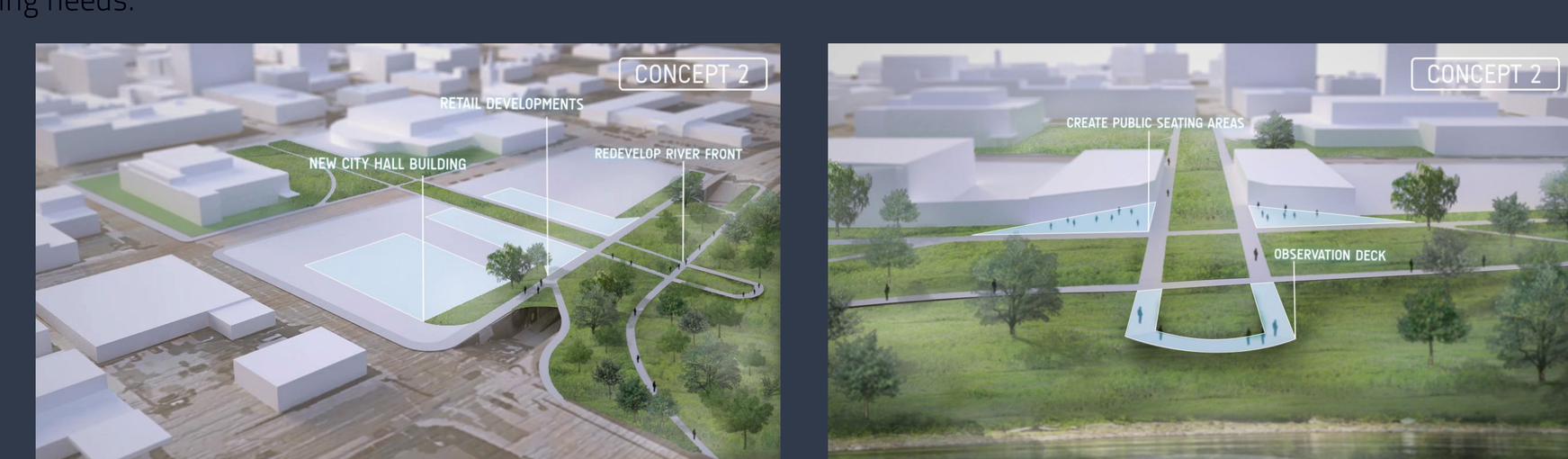
1. SITE ANALYSIS LAYERS

By first engaging an audience in the initial inventory and analysis stage, will ensure a greater understanding of site opportunities and contraints leading to design traits.



2. CONCEPTUAL DEVELOPMENT

The ability to view and compare multiple conceptual designs will allow for more public feedback and help to identify specific programming needs.



3. REFINING DESIGN DETAILS

Creating a sense of place through high quality graphics and user interaction will actively engage viewers to experience the final design for themselves with the ability to view multiple design options.

RESEARCH SYNTHESIS >>>

AUDIENCE CONPREHENSION

PUBLIC PROCESS

Design visualization is a key part of the public design process today and should be further expanded on for better public awareness. Early in the process traditional plan and section drawing methods are difficult for non-designers to understand. While images are often created to visualize projects, they are often used only toward the end of the process to show the final design. Integrating new technologies into the public design process could offer greater collaboration and understanding throughout the process.

CURRENT TECHNIQUES

The industry of design visualization has reached a peak in existing visual techniques. Photo-realistic renderings are becoming too standard and static as time goes on. They fail to engage users and only represent a sense of space, while users are still trying to concieve a sense of place. The current techniques do not depict the tactic knowledge needed to fully understand a project from a non-designers point of view. By embracing new interactive techinques visuals can be more easily understood by the general public.

EXSISTING SOFTWARE

Advancements in computer software have created opportunities to realize new forms of representation, yet the industry standard is still the same. New forms of software have begun to emerge and should be embraced to begin to create more engaging and dynamic visualizations. Current software interfaces are much too complex for every-day users to understand and navigate. By adapting current software to new types of interfaces the result will be more interactive and dynamic representations.

VIRTUAL COMMUNITIES

With new types of virtual communities like computer games and video games the trend of gamification has become common knowledge. The online colaboration of virtual communities can be embraced for new methods of built environment representation. By creating a sense of place for design visuals, users will be more actively engaged in the project and have a greater understanding of the space. The relationship between the client and designer will be made stronger through the use of new types of virtual design communities.

NEW MEDIA TECHNOLOGY

The hype cycle graph showed the current and future trends for technology, in which a shift is happening that will allow a wider range of audiences to interact with designers. With consumerism at an all time high, media tablets are now being used on a daily basis. The ability to create a virtual sense of place and place it at the fingertips of users with tablets will encourage the public to become more interested in design projects. Integrating visualization with the various mobile devices will create new ways for the people to engage in public projects.

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