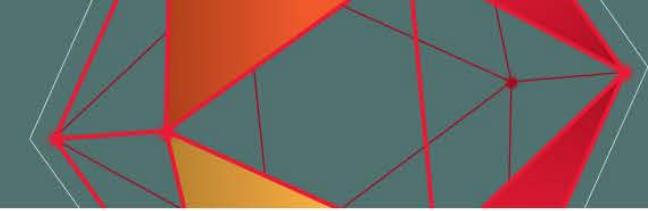


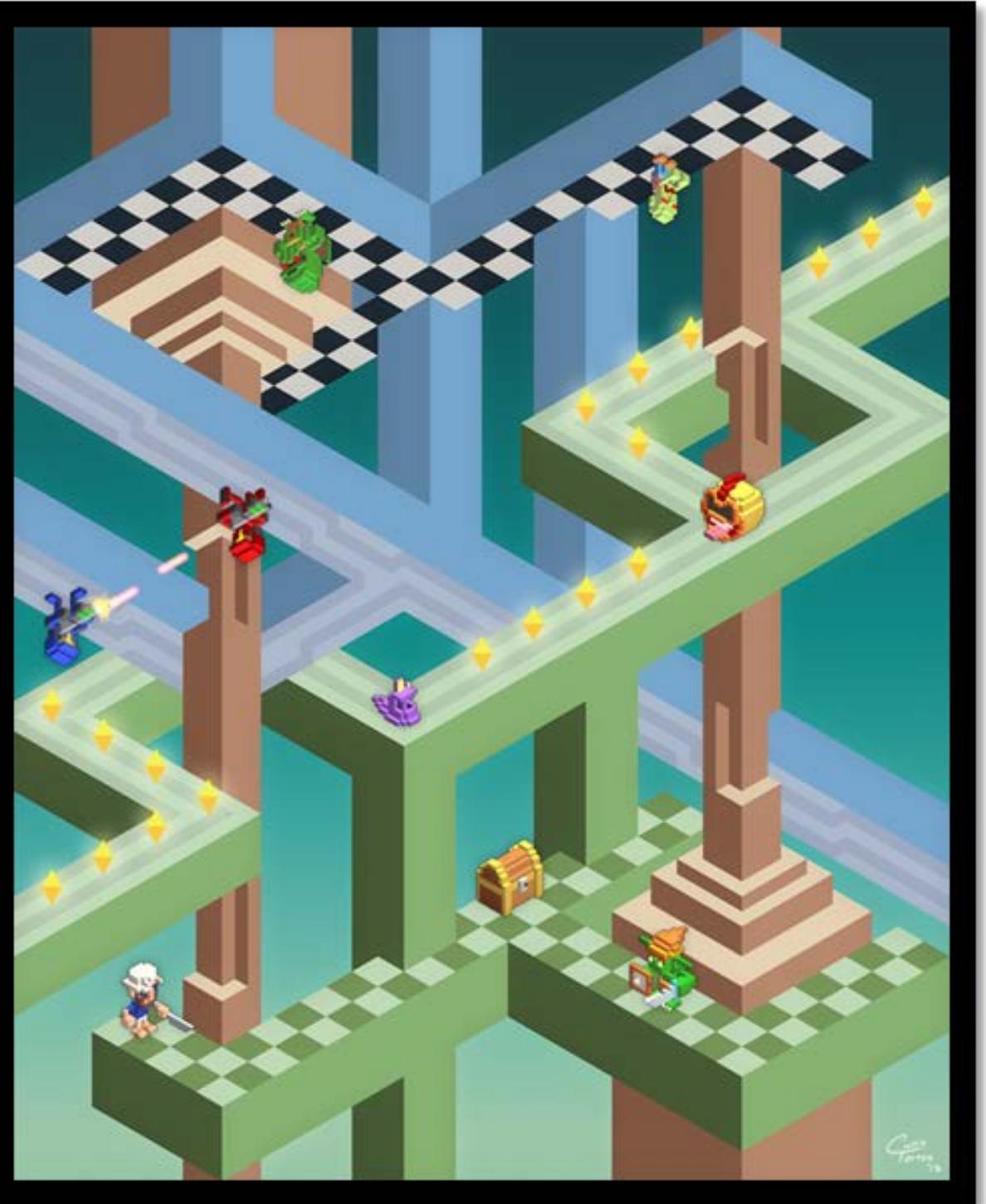


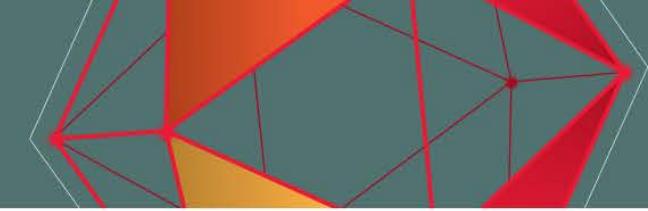
An Architectural Approach to Level Design: Creating an Art Theory for Game Worlds (and So Can You!)

Christopher W. Totten
Founder & Creative Director, Pie for Breakfast
Studios

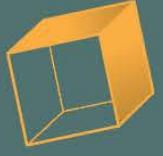


- Founder and Creative Director, Pie for Breakfast Studios
- Works with museums to showcase games
 - Smithsonian American Art Museum Arcade 2018 theme: GAME SPACES
- Game design instructor
- Graduate and undergraduate degrees in Architecture





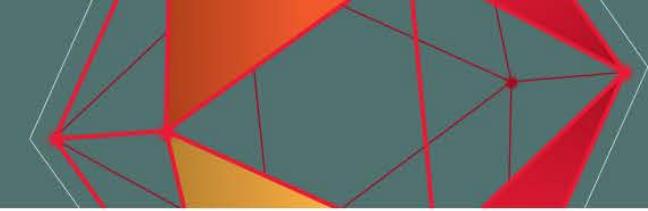




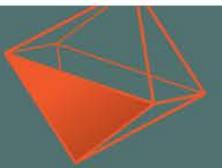
Topics

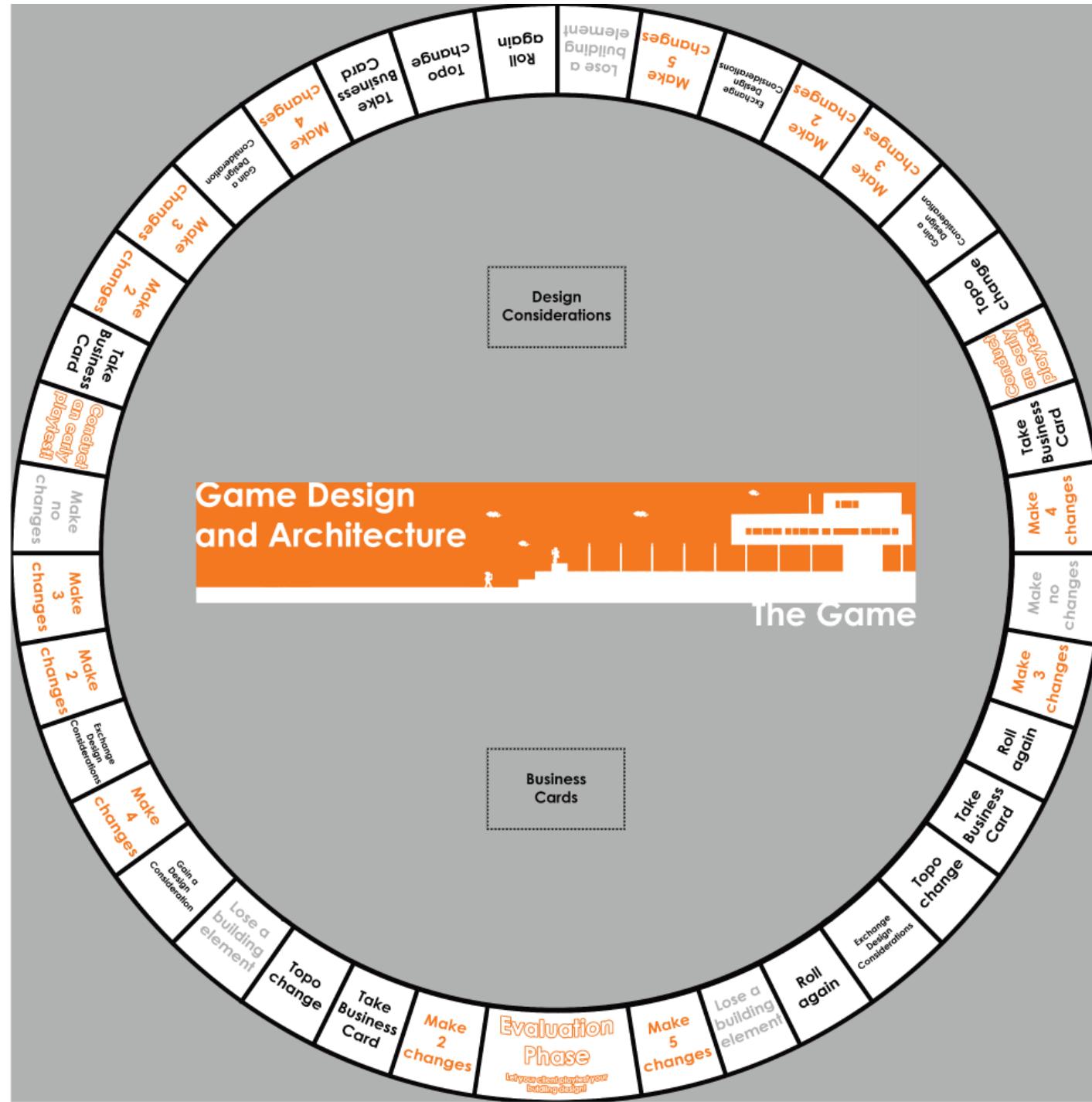
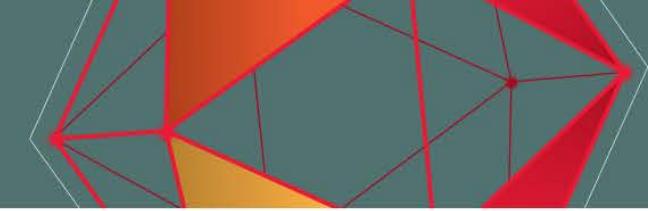
- Why did I write about level design?
- Topic selection and analysis
- Benefits of sharing techniques
- What I learned by sharing my work





Why did I write about level design?





Grad school thesis on rule-based approaches to design – game design and architecture

Studied game worlds as architecture



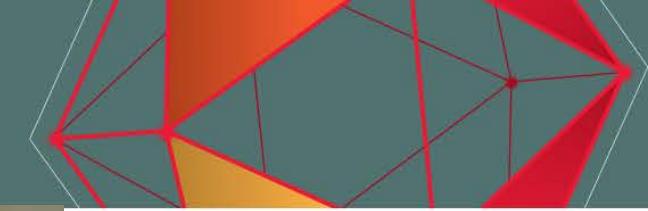
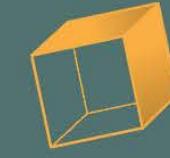


Image source: Liz England's blog:
<http://www.lizengland.com/blog/tag/side-project/>



Game Design

- Probability
- Project management
- Game balance
- Systems/dynamics
- Math
- Lots more

Level Design

- Architecture
- Perspective
- Composition
- Usage diagrams (“heat maps”)
- Movement metrics
- Lots more

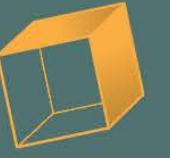
Social design

Interactivity

Psychology

Pace/flow

Lots more



What Can Game Education Learn from Architecture Education
by Helen Stuckey (Flinders University), Mark Flanagan (Kangan Institute)



Forbes OVERWORLD

HOW ARCHITECTURE AND LEVEL DESIGN IN GAMES CAN INFLUENCE EACH OTHER

Designer's Notebook: The Role of Architecture in Videogames

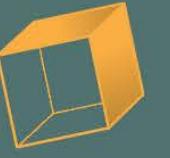
by Ernest Adams [Design, Designer's Notebook]

GDC Level Design Workshop: Architecture in Level Design



Recognizing industry interest





Filling in knowledge gaps



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Home > Features > Master's Thesis: Game Design and Architecture

FEATURES

Master's Thesis: Game Design and Architecture

[02.10.09]
- Christopher W. Totten

"Game Design and Architecture," by Chris Totten
Thesis for the completion of the degree: Master of Architecture
The Catholic University of America, School of Architecture and Planning,
Washington D.C.



 **Blogs**

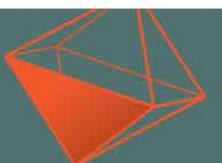
Towards a Digital Architecture

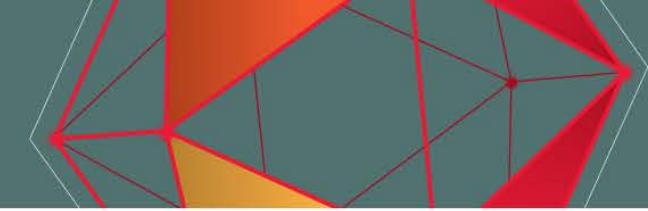
by Chris Totten on 06/11/10 07:07:00 pm [Expert Blogger](#) [Featured Post](#)



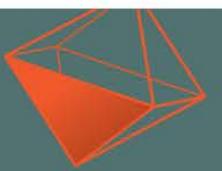


“But what do I talk about?”





What do I take for granted that isn't documented anywhere?



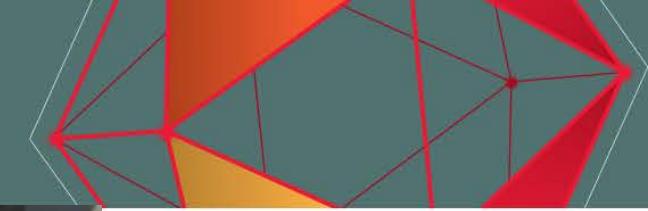
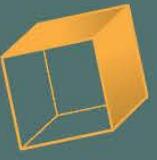
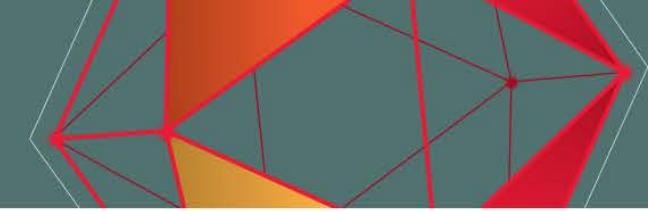
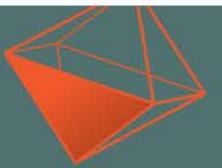


Image source:
<https://www.polygon.com/2017/10/3/16408922/game-development-level-design>



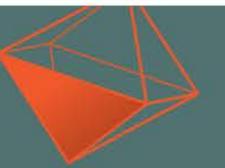


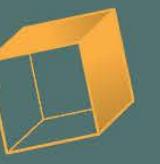
What sorts of things have you
“grokked”, so much that you forgot
you had to learn it?





What other interests or knowledge do I have that I bring to my work?





The screenshot shows the Construct 2 game editor interface with the project titled "Lissitzky's Revenge_10.cpx" and Layout 1. The main workspace displays a level completion screen. A large black diagonal banner across the center contains the text "LEVEL COMPLETE" in white. Below this, a white circle contains the text "PRESS ANY KEY FOR THE NEXT LEVEL". To the left of the banner, there is a white rectangular area with a grey gradient background containing the letters "E", "V", "I", and "E" vertically. Above this area, several red triangular particles are scattered. In the top right corner of the workspace, there is some faint text: "KPA CH PHIM GEN". The Layers panel on the right lists objects like "Congrats", "Game", and "UI". The Objects panel at the bottom lists various game elements such as "BlackTiled", "ChargeParticles_01", and "Player01". The status bar at the bottom indicates "Ready", "Approx. download: 3.1 mb memory use: 51 mb Events: 34", and "Active layer: Game".

In-production screenshot of *Lissitzky's Revenge*

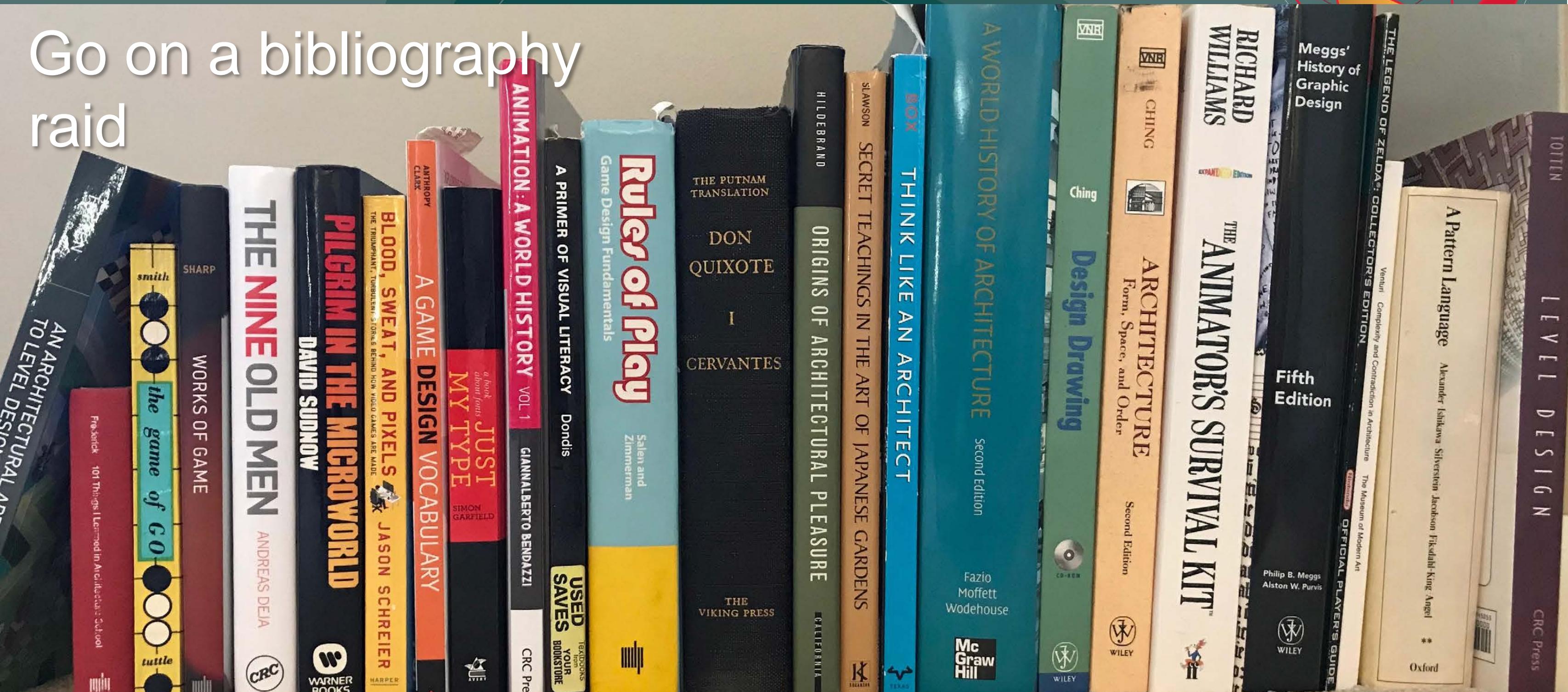


“Lenses” = topics

The image shows an open book with its pages spread wide, revealing the Table of Contents for the book "WAYS OF SEEING FOR LEVEL DESIGN" by Mark Cerny. The left page lists various chapters and sections, while the right page provides a detailed index with page numbers.

Section	Page Number
viii ■ Contents	
WAYS OF SEEING FOR LEVEL DESIGN	
SUMMARY	
ENDNOTES	
CHAPTER 2 ■ Tools and Techniques for Level Design	
LEVEL DESIGN GOALS FOR CREATING GAME EXPERIENCES	
Adjustment of Behavior	51
Transmission of Meaning	52
Augmentation of Space	53
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Contours and Line Weights	56
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Shading	58
Hierarchical Drawing	59
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Axonometric	64
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Designing on Paper	67
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CAD Programs	68
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Engine Primitives and Placeholder Art	70
3D Modeling Programs	71
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DIAGRAMS	121
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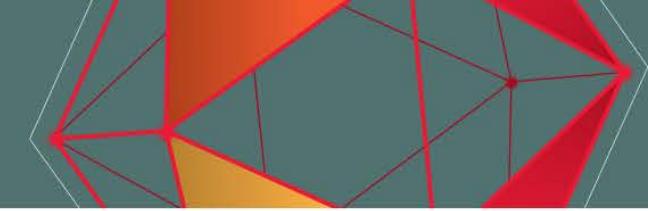
Go on a bibliography raid





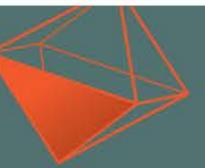
Sharing





“Can I talk about this without violating NDA?”

“I think there’s a self-policing culture of fear in the industry that prevents us from sharing. I think it’s useful to generally chip away at this culture.” ~Joel Burgess





“Talk like an architect”

114 HIERARCHY OF OPEN SPACE

... the main outdoor spaces are given their character by SITE REPAIR (104), SOUTH FACING OUTDOORS (105) and POSITIVE OUTDOOR SPACE (106). But you can refine them, and complete their character by making certain that every space always has a view out into some other larger one, and that all the spaces work together to form hierarchies.

❖ ❖ ❖

Outdoors, people always try to find a spot where they can have their backs protected, looking out toward some larger opening, beyond the space immediately in front of them.

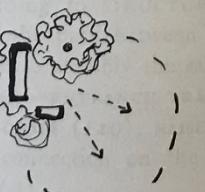
In short, people do not sit facing brick walls—they place themselves toward the view or toward whatever there is in the distance that comes nearest to a view.

Simple as this observation is, there is almost no more basic statement to make about the way people place themselves in space. And this observation has enormous implications for the spaces in which people can feel comfortable. Essentially, it means that any place where people can feel comfortable has

1. A back.
2. A view into a larger space.

In order to understand the implications of this pattern, let us look at the three major cases where it applies.

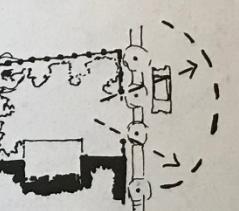
In the very smallest of outdoor spaces, in private gardens, this pattern tells you to make a corner of the space as a “back” with a seat, looking out on the garden. If it is rightly made, this corner will be snug, but not at all claustrophobic.



Seat and garden.

558

Slightly larger in scale, there is the connection between a terrace or an outdoor room of some kind and a larger open space, the street or a square. The most common form of the pattern at this scale is the front stoop, which forms a definite enclosure and a back, off the public street.



Terrace and street or square.

At the largest scale, this pattern tells you to open up public squares and greens, at one end, to great vistas. At this scale, the square itself acts as a kind of back which a person can occupy, and from which he can look out upon an even larger expanse.



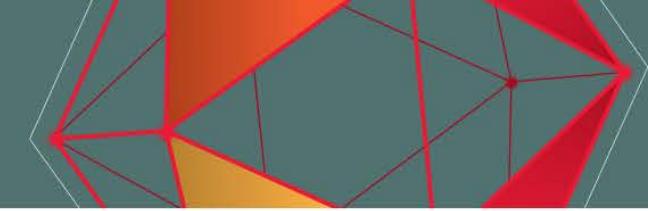
Square and vista.

Therefore:

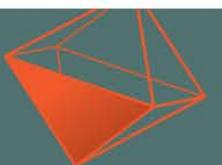
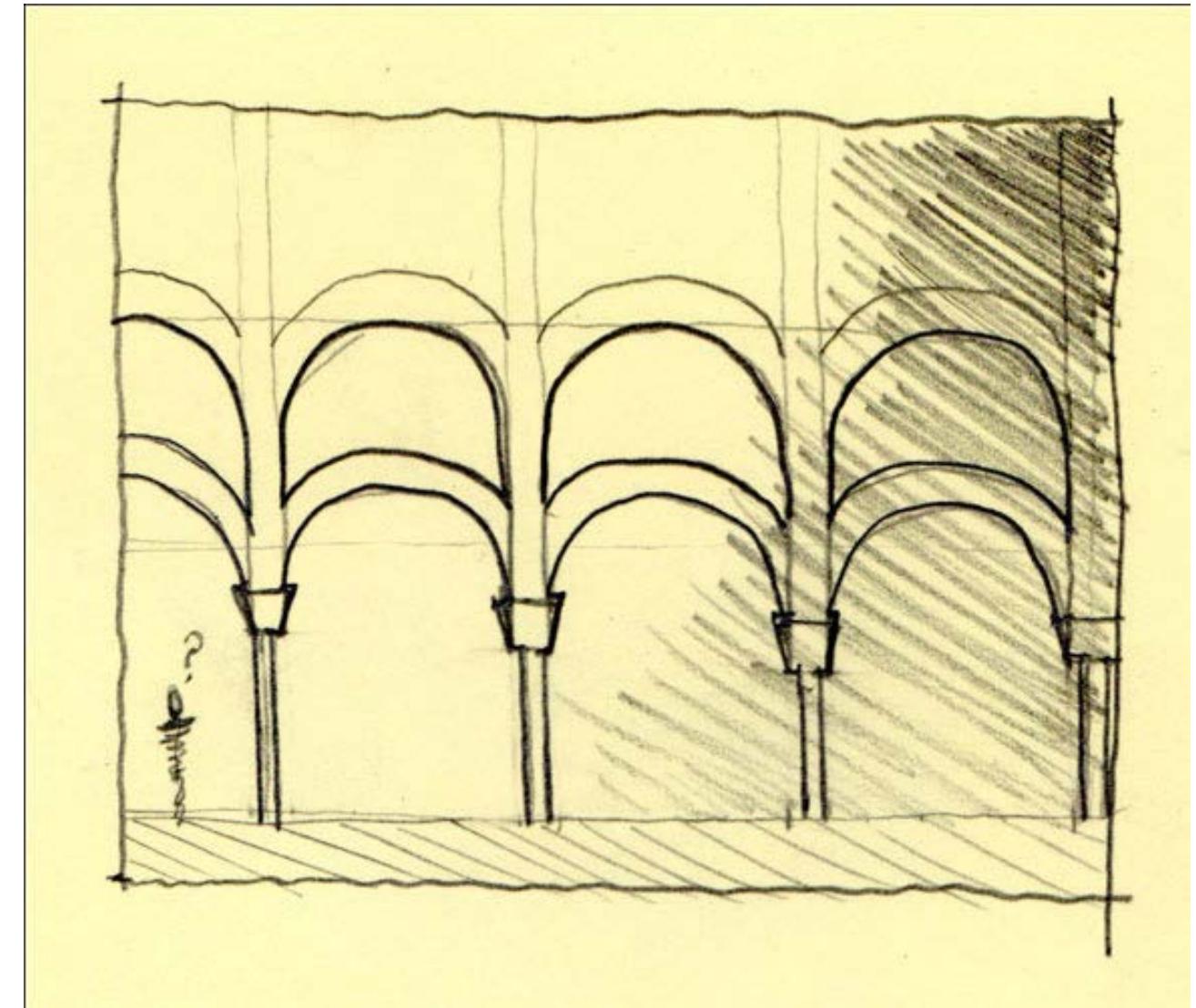
Whatever space you are shaping—whether it is a garden, terrace, street, park, public outdoor room, or courtyard, make sure of two things. First, make at least one smaller space, which looks into it and forms a natural back for it. Second, place it, and its openings, so that it looks into at least one larger space.

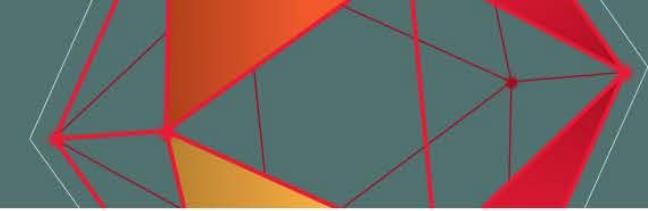
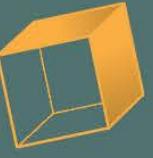
When you have done this, every outdoor space will have

559



- Describe concepts in generally applicable ways
 - Not specific engines or genres
- Sketch ideas without content that identifies your game
- Find examples in released games
 - Helps also build the “canon” of great levels
- Create new “example props” or use work from released games for when you need visuals





More sharing
=
design history
=
more knowledge

HOW TO READ BUILDINGS

A crash course in architectural styles



RIZZOLI
NEW YORK

Carol Davidson Cragoe





What I've learned by writing about level design





“Who am I to write a book?”

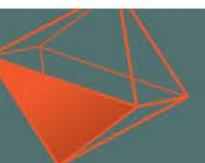
You’re the person who chooses to write.





The publishing process

1. Make an outline of your idea
2. Contact a publisher by writing to an Acquisitions Editor in charge of your topic area (game design, computers, design)
3. Submit a proposal form including list of similar books
4. TYPE ALL THE THINGS
5. “Developmental edit” – putting the content in a good order
 1. Maybe also a technical edit if the book involves software
6. Copy edit – checking grammar, language
7. Production edit – Checking the final page proofs
8. BOOK!

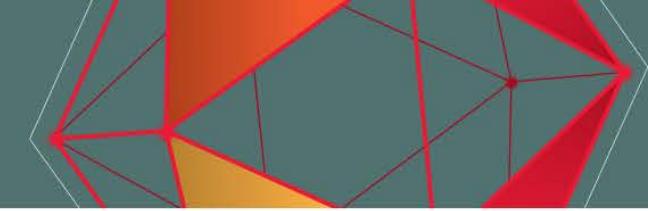




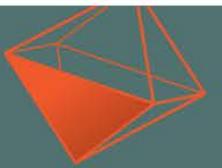
Publisher vs. Free

- Publishers...
 - are great when you want others to handle marketing, production, and outreach
 - have an air of “legitimacy” because there is an approval process
 - make a thing that hides behind a pay wall
 - own your manuscript
- Free...
 - lets you share your ideas with everyone
 - gives you potentially viral outreach
 - doesn’t give you a team of editors to help you speak *well* ~~good~~
 - you have to prove your own legitimacy and do your own marketing





Making a famous game is **not** the only way to make a positive impact on the industry.



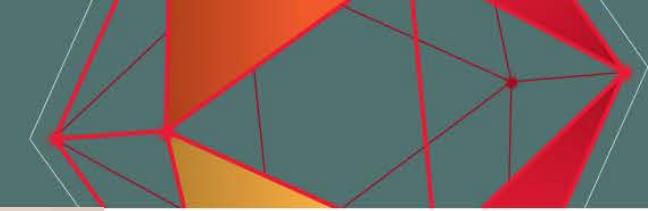
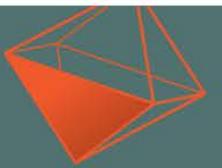


Image source:
[https://thirdcoastreview.com/
2018/02/02/bit-bash-
interactive-influence/](https://thirdcoastreview.com/2018/02/02/bit-bash-interactive-influence/)





Thank you

Christopher Totten

E-mail: ctotten@pfbstudios.com

Twitter: [@totter87](https://twitter.com/totter87)

Company: PFBStudios.com

Personal: ChrisTotten3D.com

