

Book Review: An Architectural Approach to Level Design

Introduction

During a review of the literature on architecture and game design for my Ph.D on natural environment design in games, Christopher Totten, a game designer and academic, was identified as the most contemporary and significant authors writing about architecture and games design.

The authors first book *An Architectural Approach to Level Design*, started out as his thesis for a Master's degree in Architecture, which itself arose out as a whim after playing Valve's *Half Life* (1998) game. Totten followed this up with emails to Chris Chin, a senior level designer (and former architect) at Valve who supported him from the initial idea to completion of the final book.

Review

At close to four hundred pages, the work represents a significant contemporary landmark study in the field of architecture and games design. Throughout the book there is a strong grounding in game design principles of long established and recognised game theorists such as Eric Zimmerman, Andrew Rollings and Ernest Adams, which helps Totten's underpin his arguments and rationale in his approach in using architecture to inform games design.

The chapter on the history of architecture, provides a great grounding for subsequent recommendations and principles in relation to games design. This is incredibly useful for novices, especially those from a games design background wanting to be inducted into what can be an overwhelming subject area to enter.

A variety of level design workflows from the industry are discussed in the book, (e.g. from the *Nintendo Power magazine*) in addition the work presents non-digital level design techniques: Totten offers advice and practical guidelines drawing upon basic architectural techniques, potentially a very a useful resource for games design educators.

The book offers an extensive insight into the concept of gamespaces; both physical historic gamespaces such as the labyrinth/maze and emergent spaces. Totten also proposes an evolved form of gamespace with ideas of 'reward space'. This is perhaps the book's most insightful contribution as the arguments presented are strong, justified and are founded on long-established architectural concepts, such as the maze structures.

Totten also interestingly connects level design to immersion and feeling, which many other games design writers have often ignored. The range of emotions covered by Totten when

he addresses 'emotional level design' is however limited to primarily instinctual rather than a more developed range of emotions and is grounded on theories of human motivation (i.e. such as Appleton's Prospect and refuge).

Totten expertly discusses the relationships between storytelling and gamespaces: specifically, environmental storytelling, a critical aspect of how the environment can serve other aspects of the game and influence gameplay. In addition, he does not limit his game design methodology to purely aesthetic (art) considerations but also discusses the enhancement of level design through other elements such as ambient sound and music.

However, despite the originality of the work, there are criticisms of the book's approach and grounding. Although he discusses workflows it is weak on practised-based methodologies, the book is primarily aimed at presenting guiding principles of games design rather than an exact '*how to*' guide.

The section on 3D workflows (e.g. introduction to engines) is merely that; a very basic overview of game engines' particulars, digital level design tools are only discussed across several pages rather than a full dedicated chapter, which given the array of level design software available would have been more than justified. A step-by-step guide in applying the theoretical principles to an actual games design would have further strengthened the author's key arguments.

Although Totten cites examples of actual games design across the 2D and 3D genres, there is little discussion on the difference between designing for 2D and 3D gamespaces (apart from camera considerations). The book does not link Totten's architectural principles and either AAA or indie development cycles, both critically important in modern games development.

The book is also impenetrable at times, even with a basic understanding of architecture and an extensive background in games, in several instances it is far too abstract to connect to the practice of game design. There is also little grounding of the work from a developer's or gamer's perspective; there is little in the way of Totten's own feelings and experiences of gamespaces, which would have further enhanced and supported his arguments and his approach.

There is very little reference to nature/natural environment in the book, it is heavily biased towards the built environment rather than landscape architecture. In addition, games and spaces are described purely in text form relying on the reader to have played or experienced the space being referred to, which can be problematic for such a visually and spatially reliant medium.

Conclusion

Although the above critique may appear to weaken Totten's work as ground-breaking, it would be unfair to state these minor criticisms detract from Totten's and the publisher's claim, which as one of the first books that talks extensively and specifically on games design and one that positioned architectural principles through the lens of a game designer. Totten's work can be considered at the forefront of demonstrating the ever-expanding domain of games design; it expertly combines two disparate disciplines, in this case architecture and games design, and can be considered to be a leading key text in the field since it:

- Introduces new concepts that are applicable across any type of games design that involve space.
- Reframes gamespace as a 'black art' to a known combination of science and artistry.
- Presents new methodologies and approaches for games environment design.

Totten's work arguably illustrates the most developed body of knowledge in the use and application of architecture for games design, and is a valuable read for both developers in the field wanting to develop a deeper understanding of designing more immersive and authentic game spaces as well as students engaged in studying games design & development or architecture and wanting to bridge the gap between subject areas.

On behalf of all authors, the corresponding author states that there is no conflict of interest.