



Ain Shams University  
Faculty of Engineering  
Department of Architecture

# **The Impact of Digital Gaming Techniques on The Future of Architecture Design**

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## **Statement**

This thesis is submitted to Ain Shams University for the degree of Master in Architecture. The work included in this thesis was accomplished by the researcher at the Department of Architecture, Faculty of Engineering, Ain Shams University from 2008 to 2014.

No part of this thesis has been submitted for a degree or a qualification at any other university or institute.

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الحمد لله الذى عافانى و فضلنى على كثير من ما خلق تفضيلا

**...TO MY MOTHER ...  
THANKS FOR SUPPORTING ME**

**...TO MY PROFESSORS...  
THANKS FOR GUIDING ME**

**...TO MY FRIENDS...  
THANKS FOR ENCOURAGING ME**

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## Abstract

In the 21st century, Science Fiction has been appeared & spread in many fields like films, music, painting, toys and recently digital games

Over the past 30 years, digital games have become an integral part of our culture, and the digital games industry has become a multi – billion dollar investments.

Digital games has been developed for the techniques and methodologies of it, in order to attract large people from diverse background and ages

With the development of digital games, it becomes a serious industry that contribute in many advanced technologies such as communications (mobile technology), video conferences and broadcasting and recently been used in the development of smart weapons, using the virtual reality techniques which we can consider it as a main element in this industry.

In 2007 was a banner year for digital gaming, and the industry has the figure to prove it, the entertainment software association announced today the total sales for 2007 were 18, 85 \$ billion with 9.5 \$ billion of that spent on games.

This refers that games industry become important, and affects the economic process.

It is important to explore the impact of digital games technologies in the development of Architecture design by spread it in these games with new forms and ideas.

Lately architecture interfered in digital games and has roles in the games contexts as follows:

- **Primary Role:**

Represent the creativity elements of the new architectural ideas through an architecture design process to create scenes, then deployed it inside the game as a supportive atmosphere for the game, which attract new users, and drives them to integrate and live with the game.

- **Secondary Role:**

Represent the entertainment elements to attract users to the game and provide opportunities for a large number of users to interact with games, which helps spreading the game itself and the new architectural ideas and features used in it by using these games.

This research study the relationship between digital games and architecture design by discussing and studying the steps of architecture design and how concepts are perceived ,in order to outline a new approach and methodologies in virtual architecture practice, so we can use it in the design process

# LIST OF CONTENTS

**List of Contents**

**List of Figures**

**List of Tables**

**List of Acronyms**

**List of Definitions**

1. Introduction	iii
2. Thesis Problem	iv
3. Thesis Hypothesis	iv
4. Thesis Main Goal	iv
5. Thesis Objectives	v
6. Thesis main goal and objectives relation	vi
7. Thesis Scope of Work and limitation	vii
8. Thesis Methodology	vii
9. Research Structure	ix

## **Chapter 1: Introduction to Digital Games:**

<b>Introduction</b>	<b>1</b>
<b>(1.1) Definition of Play and Games</b> .....	<b>2</b>
1.1.1 Sensory-motor or Physical Play.....	5
1.1.2 Symbolic Play.....	5
1.1.3 Games with rules.....	5
1.1.4 Games of Construction.....	5
<b>(1.2) Why Playing Games?</b> .....	<b>5</b>
<b>(1.3) Digital Games</b> .....	<b>6</b>
1.3.1 Perceptual immersion.....	6
1.3.2 Psychological immersion.....	7
<b>(1.4) Digital Games Features</b> .....	<b>8</b>
1.4.1 Interaction.....	8
1.4.2 Free time play.....	9
1.4.3 The development of different abilities.....	9
1.4.4 Wide spread.....	9
<b>(1.5) Digital Games Elements</b> .....	<b>10</b>
1.5.1 How to represent the game.....	10
1.5.2 How to produce the game.....	12
<b>(1.6) Game Goals and Rules</b> .....	<b>14</b>
1.6.1 Goals and Sub-goals.....	14
1.6.2 Rules.....	14
<b>(1.7) Gaming Terminologies and Technologies</b> .....	<b>15</b>
1.7.1 Game Terminologies.....	15
1.7.2 Game Technologies.....	15
<b>(1.8) Conclusive summary</b> .....	<b>20</b>



## **Chapter 2: The Classification of Digital Games:**

<b>Introduction.....</b>	<b>23</b>
<b>(2.1) Classification of Games.....</b>	<b>23</b>
2.1.1 Organization Classification.....	24
2.1.2 Academics Classification.....	26
<b>(2.2) Games Abilities.....</b>	<b>38</b>
2.2.1 Physical Ability.....	39
2.2.2 Mental Ability .....	40
<b>(2.3) Games Possibilities and Limitations.....</b>	<b>41</b>
2.3.1 Games possibilities.....	41
2.3.2 Games limitations.....	42
<b>(2.4) Winning and Losing Conditions.....</b>	<b>42</b>
<b>(2.5) Skills Developed by Games.....</b>	<b>44</b>
2.5.1 Developing Soft Skills.....	44
2.5.2 Developing Hard Skills.....	45
<b>(2.6) Digital Games Value in Architecture.....</b>	<b>48</b>
<b>(2.7) Conclusive Summary.....</b>	<b>49</b>

## **Chapter 3: Methods of Searching for Ideas:**

<b>Introduction.....</b>	<b>52</b>
<b>(3.1) What is Design?.....</b>	<b>53</b>
<b>(3.2) Designers Abilities.....</b>	<b>54</b>
3.2.1 Internalization ability .....	54
3.2.2 Externalization ability.....	54
<b>(3.3) Design Methods Approaches .....</b>	<b>54</b>
3.3.1 Designers as Black Boxes.....	55
3.3.2 Designers as Glass Boxes.....	61
3.3.3 Designers as Self-Organizing System.....	62
<b>(3.4) Design Concept Generation.....</b>	<b>64</b>
<b>(3.5) Concept Applying.....</b>	<b>69</b>
<b>(3.6) Architectural Types of Thinking.....</b>	<b>70</b>
3.6.1 Analytical Thinking.....	70
3.6.2 Representational Thinking.....	71
3.6.3 Judgmental Thinking.....	71
<b>(3.7) Architect's needs in Thinking.....</b>	<b>72</b>
3.7.1 Abstraction.....	72
3.7.2 Ambiguity and vagueness.....	72
3.7.3 Imprecision.....	72
<b>(3.8) Conclusive Summary.....</b>	<b>73</b>

## **Chapter 4: The Architecture Design Process:**

<b>Introduction.....</b>	<b>76</b>
<b>(4.1) Methods of Design Process.....</b>	<b>76</b>
4.1.1 Divergence.....	77
4.1.2 Transformation.....	78
4.1.3 Convergence.....	78

<b>(4.2) Architecture Design Process.....</b>	<b>79</b>
4.2.1 Analysis.....	80
4.2.2 Synthesis.....	80
4.2.3 Evaluation (appraisal).....	81
<b>(4.3) Design Strategies.....</b>	<b>83</b>
4.3.1 Pre-Planned strategy.....	84
4.3.2 Cyclic strategy.....	84
4.3.4 Branching strategy.....	85
4.3.5 Adaptive strategy.....	86
4.3.6 Incremental strategy.....	87
<b>(4.4) Design Process Maps.....</b>	<b>87</b>
4.4.1 The Marcus/Maver Map.....	88
4.4.2 The Simplified Map.....	90
4.4.3 The Linear Map.....	91
4.4.4 The Division Map.....	92
4.4.5 The Centralized Map.....	92
4.4.6 The Cycle Map.....	93
4.4.7 The Investigative Map.....	94
<b>(4.5) Creativity in Design.....</b>	<b>96</b>
<b>(4.6) Conclusive Summary.....</b>	<b>101</b>

**Chapter 5: Relationship between Digital Games and Architecture Design:**

<b>Introduction.....</b>	<b>103</b>
<b>(5.1) Games and Virtual Worlds.....</b>	<b>103</b>
<b>(5.2) Architectural Concept and Digital Games.....</b>	<b>106</b>
<b>(5.3) Breaking Game Rules.....</b>	<b>107</b>
<b>(5.4) Symbolic Role of Games.....</b>	<b>108</b>
<b>(5.5) Digital Games and Architecture Design .....</b>	<b>108</b>
5.5.1 Relationship between Architecture Design and different Games Classifications.....	116
5.5.2 Digital games and type of thinking .....	119
5.5.3 Relationship between Architecture Design, Different types of Thinking and Digital Games.....	120
<b>(5.6) Conclusive Summary.....</b>	<b>124</b>

**Chapter 6: Thesis Conclusion and Recommendations:**

<b>1. Introduction.....</b>	<b>126</b>
<b>2. Conclusions.....</b>	<b>127</b>
<b>3. Recommendations.....</b>	<b>130</b>
<b>4. List of References.....</b>	<b>131</b>

## **LIST OF FIGURES**

### **Chapter 1: Introduction to Digital Games:**

Fig.1.1 To be inside the game .....	7
Fig.1.2. Sims: Avatar Interface .....	11
Fig.1.3. Princess of Zelda .....	12
Fig.1.4 first trials of the perspectives in the 15 <sup>th</sup> century .....	17
Fig.1.5 shows the same perspective by doing it by the one vanishing point .....	17
Fig.1.6. Game Perception .....	19

### **Chapter 2: The Classification of Digital Games:**

Fig.2.1: The eternal maze .....	30
Fig.2.2: Halo3 .....	30
Fig.2.3: Street Fighter .....	31
Fig.2.4: Pac Man .....	32
Fig.2.5: Arch Rivals .....	33
Fig.2.6: Downtown Run .....	34
Fig.2.7: Need for Speed .....	34
Fig.2.8: Call of Duty .....	35
Fig.2.9: Asheron's Call .....	36
Fig.2.10: Civilization .....	37
Fig.2.11: World War Craft .....	37
Fig.2.12: Wii games .....	39
Fig.2.13: Avatar's Dimensions .....	41
Fig.2.14: City Ville .....	46
Fig.2.15: The User-Game Cycle .....	49

### **Chapter 3: Methods of Searching for Ideas:**

Fig.3.1: Shows how the black box works .....	59
Fig.3.2: Diagrams with simple geometric shapes .....	65
Fig.3.3: The City of Air Sketches .....	66
Fig.3.4: The Guggenheim Museum sketch plan .....	67

Fig.3.5: The Intrapolis city section sketch .....	68
Fig.3.6: Intranpolis city-light analysis .....	68
Fig.3.7: Cloud Props by Mart Stam .....	69
Fig.3.8: Concert House by Hermann Finesterlin .....	69
Fig.3.9: Concept Generation.....	74

**Chapter 4: The Architecture Design Process:**

Fig.4.1: RIBA Design Process .....	82
Fig.4.2: Design Process Diagram.....	83
Fig.4.3: Pre-Planned Strategy .....	84
Fig.4.4: Cyclic Strategy .....	85
Fig.4.5: Branching Strategy .....	86
Fig.4.6: Adaptive Strategy .....	87
Fig.4.7: Incremental Strategy.....	87
Fig.4.8: Marcus/Maver Map .....	89
Fig.4.9: The General Map of Design Process .....	90
Fig.4.10: A graphical representation of the design process .....	90
Fig.4.11: Linear Design Process .....	91
Fig.4.12: Modern houses designed in 1924 .....	91
Fig.4.13: Division map .....	92
Fig.4.14: Centralized form of Design Process .....	93
Fig.4.15: Cycle Map.....	94
Fig.4.16: The investigative Map.....	95
Fig.4.17: The Quake City.....	97
Fig.4.18: The Creative Process by Bryan Lawson.....	100

**Chapter 5: Relationship between Digital Games and Architecture Design:**

Fig.5.1: City Ville, creating the city .....	104
Fig.5.2: Game Engine.....	105
Fig.5.3: Architecture design scheme map.....	110

## LIST OF TABLES

### **Chapter 2: The Classification of Digital Games:**

Table.2.1: The ESRB system.....	25
---------------------------------	----

### **Chapter 3: Methods of Searching for Ideas:**

Table.3.1:Shows the designers as self-organized System.....	63
---	----

### **Chapter 4: The Architecture Design Process:**

Table.4.1: Connection between design strategies and maps with design approaches.....	95
--	----

### **Chapter 5: Relationship between Digital Games and Architecture Design:**

Table.5.1: games related to design.....	112
Table.5.2: Illustrating the relation between Games and Architecture.....	115
Table.5.3: Relationship between Games and Architecture.....	117
Table.5.4: Relationship between Design Approaches and Games	118
Table.5.5: Relationship between Games and The types of Thinking.....	119
Table.5.6: Architecture Design, Different Types of Thinking and Digital games.....	121

## List of Acronyms

**VI:** Virtual Reality

**VA:** Virtual Architecture

**VE:** Virtual Environment

**VR:** Virtual Reality

**AI:** Artificial Intelligence

**RIBA:** Royal Institute of British Architects

**PC:** Personal Computers

**ESRB:** The Entertainment Software Rating Board

**S&A Games:** Skill and Action Games

**ICT:** Information and Communication Technology

## LIST OF DEFINITIONS

Brain Session	It is the assembling of a group session which their efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members
Artificial Intelligence	The intelligence exhibited by machines or software, and the branch of computer science that develops machines and software with human-like intelligence.
Virtual Reality	The computer-generated simulation of a three-dimensional image or environment, that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.
Virtual Architecture	It is a term used for architecture specifically created in the computer environment. People like Piranesi, Lebbeus Woods, and Marcos Novak dreamed about architectures that could exist virtually on paper, screen, and digital environments.
Virtual Environments	A computer-generated, three-dimensional Representation of a setting in which, the user of the technology perceives themselves to be and within, which interaction takes place.