Replaying Japan 2016

Conference Abstracts

August 15-17
Leipzig University
Replaying Japan 2016
From Pac-Man to the present: Japanese Games between the local and the global

August 15-17, Leipzig University

Organizing Committee

Main Organizer:
Institute of East Asian Studies / Japanese Studies, Leipzig University

Co-Organizers:
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Philosophy and Humanities Computing, University of Alberta

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Mitsuyuki INABA
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Geoffrey ROCKWELL
Philosophy and Humanities Computing, University of Alberta

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College of Image Arts and Sciences, Ritsumeikan University
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College of Image Arts and Sciences, Ritsumeikan University

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Uta Friedrich (coordination), Francesca Schrader (finances), Svenja Schmitt (design), Florian Werner (media)
Anne-Katrin Frenzel, Paul Kniep, Anton Jankowski, Cleo Pelte, Stephanie Tretow
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## Conference Program

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<td>Registration @ Leipzig New City Hall (Neues Rathaus)</td>
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<td>9:00 – 9:30</td>
<td>Welcome Address</td>
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<tr>
<td></td>
<td>• Prof. Dr. med. Beate A. Schücking, Rector of Leipzig University</td>
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<td>• Prof. Dr. Ulrich Brieler, City of Leipzig</td>
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<td></td>
<td>• Martin Roth, Leipzig University – Martin Picard, Leipzig University – Geoffrey Rockwell, University of Alberta – Mitsuyuki Inaba, Ritsumeikan University, Conference Co-Chairs</td>
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<td>• Masakazu Tachikawa, Director of the Japan Cultural Institute in Cologne (The Japan Foundation)</td>
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<tr>
<td>9:30 – 11:00</td>
<td>Keynote ONE: TORU IWATANI, Tokyo Polytechnic University: The Secrets of the Interest for Playing PAC-MAN (Moderator: Koichi Hosoi, Ritsumeikan University)</td>
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<td>11:00 – 11:30</td>
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<tr>
<td>Room S102</td>
<td>Session 1A – Pac-Man Theory</td>
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<td>Chair: Akinori Nakamura, Ritsumeikan University</td>
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<td>Kill Screens, Reverse Flicks and Safe Spaces: Mastering and Breaking Pac-Man</td>
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<td>James Newman, Bath Spa University</td>
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<td>Early reception of Pac-Man in Finland</td>
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<td>Jaakko Suominen, University of Turku</td>
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<td>Consumption in the afterlife of Pac-Man</td>
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<td>Paul Martin, University of Nottingham Ningbo China</td>
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<td>Room M104</td>
<td>Session 1B – Industry History/VR</td>
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<td>Chair: Akito Inoue, Ritsumeikan University</td>
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<td></td>
<td>Reconsidering Interface and Playability of Japanese Portable Games from 1980s to 2000s: Focusing on Nintendo and Gunpei Yokoi</td>
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<td>Shunsuke Mukae, Ritsumeikan University</td>
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<td>An evolutionary process of the Home video game in Japan – The consequence of the development productivity dilemma</td>
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<td>Fumihiko Ikuine, University of Tsukuba</td>
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<td>SAN-SHIKI Electric Bow System: Applying Projection VR to “Game Sport”</td>
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<td>Masasuke Yasumoto, Kanagawa Institute of Technology, Takehiro Teraoka, Tokyo University of Technology</td>
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<tr>
<td>14:00 – 15:30</td>
<td><strong>Keynote TWO: JUNKO OZAWA</strong>, Composer and Sound Designer: <em>Game Sound of the 80s – The Marvelous Business of 8bit</em> (Moderator: Koichi Hosoi, Ritsumeikan University)</td>
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<td>15:30 – 16:00</td>
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<td>16:00 – 17:30</td>
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<td>Chair: Geoffrey Rockwell, University of Alberta</td>
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<td>Distancing War: Japanese videogames and WWII</td>
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<td><strong>Rachael Hutchinson</strong>, University of Delaware</td>
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<td>Disaster Games from Anthropological Aspects- A Study of User Experience of Zettai Zetsumei Toshi Series</td>
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<td><strong>Saori Amano, Kahono Sakakibara, Kiyotaka Matsunaga, Nanzan University, Keiji Amano, Seijoh University</strong></td>
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<td>Effects of Video Games Requiring Immediate Response on Emotional Experience</td>
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<td><strong>Tomohiro Kimura</strong>, University of Tokyo</td>
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<td><strong>Poster and Game Demo Session</strong> @ Moritzbastei</td>
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<td>• How to Retain Players of Strategy Mobile Games?, <strong>Wei Wei</strong>, University of Alberta</td>
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<td>• Our Activities to Increase the Public Acceptance of Games for Society in Japan, <strong>Megumi Aibara, Masakazu Furuichi</strong>, Nihon University</td>
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<td>• Analog Gaming Culture in Japan (TRPG and Miniature Wargames Otaku), <strong>Philip Linde-mer</strong>, University of Bonn</td>
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<td>• The Design and Development of Turntable-type User Interface for Data-Browsing: A Case of Video Game Archives, <strong>Shinya Saito, Kazufumi Fukuda, Kazutoshi Iida</strong>, Ritsumeikan University</td>
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<td>• SAN-SHIKI Electric Bow System: Applying Projection VR to “Game Sport”, <strong>Masasuke Yasumoto</strong>, Kanagawa Institute of Technology, <strong>Takehiro Teraoka</strong>, Tokyo University of Technology</td>
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<td>• Game Applications of Dynamic and Spatial Connections between Multiple Mobile Devices <strong>Masasuke Yasumoto</strong>, Kanagawa Institute of Technology, <strong>Takehiro Teraoka</strong>, Tokyo University of Technology</td>
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<td>• AlexG – Bug Xterminator 1st public demo and feedback gathering, <strong>Nathanial Tan</strong>, University of Calgary</td>
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<td>9:00 – 10:30</td>
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<td>Chair: Hiroshi Yoshida, Ritsumeikan University</td>
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<td>Representation of Play: Pachinko in Japan</td>
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<td><strong>Keiji Amano</strong>, Seijoh University, <strong>Geoffrey Rockwell</strong>, University of Alberta</td>
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<td>Playing opera: The influence of European music traditions on the Japanese videogame “Final Fantasy VI”</td>
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<td><strong>Cäcilia Sauer</strong>, Leipzig University</td>
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<td>Pac Man Fever. The Musical Legacy of 1980s Japanese Video Games</td>
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<td><strong>Melanie Fritsch</strong>, University of Bayreuth</td>
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<td><strong>Keynote FOUR: MINAKO O’HAGAN</strong>, Dublin City University: <em>Beyond All Your Base Are Belong To Us: The art of turning 花鳥風月 into Painkiller or Osaka dialect into Welsh accent</em></td>
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<td>14:15 – 15:15</td>
<td><strong>Focus Session</strong>: “Working in the Game Industry”, Daniel Finck, Christoph Neubauer</td>
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<td>Moderator: Martin Roth, Leipzig University</td>
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<td>Coffee Break</td>
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<td>15:45 – 17:15</td>
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<td>Chair: Fabian Schäfer, Friedrich-Alexander-University Erlangen-Nürnberg</td>
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<td>Opinions and Opinion Leaders in the Japanese Discourse on the Effects of Video Games</td>
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<td>Florian M. Kaiser, Goethe-University Frankfurt</td>
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<td>Regional Game Studies—with a Chinese Example</td>
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<td><strong>Bjarke Liboriussen</strong>, University of Nottingham Ningbo China</td>
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<td>Exploratory Studies on the Sentiment of the Globalization in Game Studios: Comparative Studies on Indies Studios from Singapore, Japan, North America and Europe</td>
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<td><strong>Akinori Nakamura</strong>, Ritsumeikan University</td>
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<td><strong>Short Paper Session A</strong></td>
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<td>Chair: Mitsuyuki Inaba, Ritsumeikan University</td>
<td>Chair: Jérémie Pelletier-Gagnon, University of Alberta</td>
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<td>The Pit of Panga: Super Mario Maker and Kaizo game design</td>
<td>Free Love: Japanese Women’s Games, Fan Translations, Gendered Otaku and Game Cultures and the Politics of Game Localization</td>
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<td><strong>James Newman</strong>, Bath Spa University</td>
<td><strong>Sarah Christina Ganzon</strong>, Concordia University</td>
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<td>Mainstreaming Kaizo</td>
<td>“Character AI” program practice example in the beginner-friendly game production education</td>
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<td><strong>Nathan Altice</strong>, Independent scholar</td>
<td><strong>Seiki Okude</strong>, Ritsumeikan University</td>
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<th>Time</th>
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<td><strong>Live Pac-Man Experience</strong></td>
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<td>Jaakko Suominen, Usva Friman, Johannes Koski</td>
<td><strong>Jaakko Suominen, Usva Friman, Johannes Koski</strong></td>
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@Room S102
# August 17 (Wednesday)

<table>
<thead>
<tr>
<th>Time</th>
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<td>Registration @Room M103</td>
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| 9:00 – 10:30    | Session 5A – Japan-West/Intercultural | Room S102              | Chair: Benjamin Bigl, Leipzig University  
The Aesthetics of Bad Translation: The Codification of a "Japanese Gamic Experience" by way of the language barrier  
**Tomás Grau de Pablos**, Autonomous University of Barcelona  
Distinctive difference game titles between Japanese context and English context  
**Kazufumi Fukuda, Akito Inoue**, Ritsumeikan University  
Research on Serious-Game Design for Inter Cultural Understanding mediated by 3D Metaverse  
**Juhyung Shin, Yan Jiao, Yehang Jiang, Mitsuyuki Inaba**, Ritsumeikan University |
| 10:30 – 11:00   | Coffee Break                          |                        |                                                                                                                                                                                                                  |
| 11:00 – 12:30   | Session 6A – Industry criticism       | Room M104              | Chair: Kazufumi Fukuda, Ritsumeikan University  
Developing new business models for content creation in the Chinese game industry  
**Paul Martin, Bjarke Liboriusen, Andrew White**, University of Nottingham Ningbo China  
Harnessing the Power of Persuasion: Strategies towards Increasing Women’s Participation in Japan’s Game Industry  
**Mimi Okabe, Geoffrey Rockwell**, University of Alberta  
Dark Side of the Sun: A controversial examination of the underworld of the Japanese video game industry  
**John Szczepaniak**, Freelance Journalist |
|                 | Session 5B – Cultural/Global Context  | Room S102              | Chair: Shuji Watanabe, Ritsumeikan University  
**Selen Çalış**, Kyoto Seika University  
Umineko no naku koro ni: Reading Japanese novel games in their cultural context, from information society to urban consumption  
**Ernest dit Alban Edmond**, Concordia University, Paris Saint-Denis  
Construction of Female Corporeality in Rune Factory Frontier – Patterns of a Local and Global Discourse about the Female Body  
**Sebastian Sabas**, Heinrich Heine University Düsseldorf |
|                 | Session 6B – Game Design/Difficulties |                        | Chair: Jan-Noël Thon, University of Tübingen  
‘Metroidvania’ As Japanese Take On (Semi-)Open World Game Design – From early platform games like Metroid and Castlevania to RPGs like Dark Souls and Bloodborne  
**Marc Bonner**, University of Cologne  
Moral Ambiguity and Player Complicity in the “Souls” Series  
**Thorsten Busch, Jason Begy**, University of Konstanz & Concordia University  
A theory that studies diversity for profit called Difficulty Engineering and Intrinsic Difficulty  
**Shuji Watanabe**, Ritsumeikan University |
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<tr>
<td>12:30 – 13:30</td>
<td>Lunch Time</td>
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<tr>
<td>13:30 – 14:30</td>
<td><strong>Roundtable</strong>: The Future of Japan Game Studies (Moderators: Martin Roth and Martin Picard)</td>
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<td>14:30 – 14:45</td>
<td>Closing Remarks</td>
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@ Room S102

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**Retro Game Exhibition @ M 103 (at the coffee room)**

**Courtesy of poly.play**

poly.play möchte überraschen. Das ist sicher kein einfaches Unterfangen, schließlich ist poly.play ein Retrogame-Publisher und der Reiz von Retrogames ist ja, dass sie all das Altbekannte, das Altvertraute und Liebgewonnene einer Videospielkultur in sich tragen, die ansonsten steter Veränderung unterworfen ist. Bei poly.play ist der Blick zurück fest verbunden mit dem Blick nach vorn. poly.play veröffentlicht deshalb neue Spiele für klassische Systeme. Die aufwändigen Verpackungen mit diversen Extras, die sich am Golden Age der Heimcomputerära orientieren, werden dabei zum essentiellen Bestandteil des Gesamterlebnisses und schlagen eine Brücke von Altvertraut zu überraschend Neu.
Maps

Leipzig city map

1 Leipzig Central Station
2 City Hall Opening Keynote
3 Main Conference venue M102, M103, M104, S102 see additional map
4 Mensa (recommended lunch venue)
5 Reception Monday 19:00 -
Keynotes
The Secrets of the Interest for Playing PAC-MAN
「P A C-M A Nの面白さの秘密」
Toru IWATANI 岩谷徹, Tokyo Polytechnic University
Monday, 9:30-11:00 @ Neues Rathaus

Game Sound of the 80s – The Marvelous Business of 8Bit
8 0年代のゲームサウンド 〜 8 b i t の不思議な業界〜
Junko OZAWA 小沢純子, Composer and Sound Designer
Monday, 14:00-15:30 @ S102

The Making of 80’s Japanese Games~Create World~ - in case of „XEVIOUS“ & „the Tower of DRAUGA“ -
Masanobu ENDOH 遠藤雅伸, Tokyo Polytechnic University
Tuesday, 9:00 - 10:30 @ S102

Beyond All Your Base Are Belong To Us: The art of turning 花鳥風月 into Painkiller or Osaka dialect into Welsh accent
Minako O’Hagan, Dublin City University
Tuesday, 13:15-14:15 @ S102

This presentation discusses game localisation from the academic perspective of translation studies. Despite its critical supporting role in the globalisation of the game industry, game localisation has been overlooked in academia as a research domain until relatively recently. However, as translation studies has begun to engage itself with the digital world game localisation research has gained momentum. Drawing on the research literature this presentation attempts to provide an insight into the challenges that game translators face as well as their solutions, together with the increasingly powerful presence of game fans beginning to influence localisation decisions. Game localisation presents issues which are increasingly confronting translation in the 21st century as the world becomes wholly digital and wired. In this presentation I argue how game localisation espouses the seeds of future of translation and is therefore a significant area of practice to expand the theory of translation.
Session 1A – Pac-Man Theory
Chair: Akinori Nakamura, Ritsumeikan University
Kill Screens, Reverse Flicks and Safe Spaces: Mastering and Breaking Pac-Man

James Newman, Bath Spa University

This paper explores the creation and codification of strategies and techniques for playing, beating and breaking Namco’s *Pac-Man* (1980). The findings are based on original archival research that draws on a range of early videogame strategy publications in addition to more recent technical investigations of the game’s code.

Riding the popularity of the then-new medium of videogames, the 1980s saw the emergence of a new genre of book. With titles such as *The Winners’ Book of Video Games* (Kubey 1982) and *How to Beat the Video Games* (Blanchet 1982), these mass-produced pulpy, paperbacks were concerned with revealing successful gameplay strategies for popular arcade games of the period. Importantly, these volumes were written for players by players rather than being tie-in products associated with the development or retail of the games they addressed. As such, their analyses are arrived at through repeated, systematic, investigative play.

Uston’s 156-page *Mastering Pac-Man* is a case in point as it seeks to zero-in on the system that underpins the game. The analysis is concerned with the four monsters’ artificial intelligence, the way in which Pac-Man moves more quickly along empty channels when eating through dots, and the way the tunnels function. Most importantly, the book’s purpose is to translate this knowledge into exploitable strategy. Understanding the differences in their pattern-finding behaviour allows measured responses to the four monsters; knowing that *Pac-Man* can outrun and outmanoeuvre certain monsters by moving in open space or repeatedly cornering them is key to evading their attacks, thus unveiling the counterintuitive and harnessable fact that *Pac-Man* can influence the movement of the monsters by hesitating or even momentarily reversing and moving toward them while in the tunnels.

Ultimately, Uston et al’s analyses set out a number of patterns that may be used to tackle the various mazes. Each pattern is named and the routes and techniques required to execute it are carefully explained, illustrated, and mapped. Each pattern, especially those deployed in the later stages of the game, demands the use of advanced techniques such as ‘hesitation’, the ‘reverse flick’ and ‘tunnelling’ while allowing for ‘conservative improvisation’. In this way, the text oscillates between an inviting and ‘regulatory’ mode of address (Burn 2006).

The analysis of these various investigations of *Pac-Man* reveal an approach to play that I characterise as a form of reverse engineering that seeks to apprehend the game at the systemic, algorithmic level rather than at the representational level (Newman 2008). However, exploring more recent investigations of *Pac-Man*, we note an altogether more technical mode of analysis. Taking advantage of the distribution of the game’s ROM along with emulation and software analysis tools, contemporary players have focused their investigations on the operation of *Pac-Man*’s underlying code. By investigating the flow of data through the program, the composition of the memory map, and the AI routines, these investigations seek to explain the presence of the ‘Safe-Spot’ and the infamous ‘Killscreen’ that brings the game to an unceremonious and unintentionally decisive end on Map 256 (Hodges 2015).

The Killscreen provides a fitting conclusion to the paper as we consider its status as game-breaking glitch, delimiting enabler of the ‘Perfect Game’, and popular meme, (re)activated and celebrated in gaming culture with Hipster Whale/Bandai Namco Entertainment’s *Pac-Man 256* (2015).

**References**


Early reception of Pac-Man in Finland
Jaakko Suominen, University of Turku

The paper deals with the question how the Pac-Man game was received in Finland. The paper traces the diffusion of official versions of the game in different platforms as well as Pac-Man’s (1980) reception in popular media and public discourses. One main interest, however, lies in the practices how computer hobbyist appropriated the game when making new “homebrew” versions and adaptations of the popular and iconic game. In addition, the paper introduces a case example of double translation process related to Pac-Man: The Finnish cover version of “Pac-Man Fever” song (originally made in the USA by Buckner and Garcia, in 1982), “Pac-Man kuume” in 1983, which differed from the original American version in its sounds and lyrics. The paper is based on contemporary sources such as computing and game magazine articles and “Pac-Man kuume” record in the early 1980s as well as on oral historical sources such as interviews and online inquiries.

Literature
**Consumption in the afterlife of Pac-Man**

Paul Martin, University of Nottingham Ningbo China

*Pac-Man* (Iwatani, 1980) is about eating. The game’s main character is nothing but mouth, incessantly chomping pellets, fruit and ghosts. The game’s designer Toru Iwatani has said that he created *Pac-Man* to attract girls and women into the male space of the games arcade, and thought that a game about eating would appeal to a female market (Donovan, 2010, p.87). He has also provided two different eating-related creation stories for the central character—that he is based on the shape of the Japanese word for “mouth” (kuchi, 口) and that he is based on the image of a pizza with one slice missing (Pittman, 2009, p.2; Kent, 2001, p.141).

But if *Pac-Man* is about eating, then what is eating about in *Pac-Man*? For Steven Poole (2004) *Pac-Man*‘s insatiable appetite can be read in two ways. First, the game can be seen as a celebration of eating as empowering. This appealed, Poole argues, to women in the early 1980s (p.312), presumably as a change from dieting discourse that encouraged anxiety around food consumption. Second, the game can be read as a satire on consumption in late-capitalism. This reading focuses on the reduction of *Pac-Man* to a pure consumer—a monadic mouth divorced from society, whose sole and terminal function is to consume (pp.307-8; see also Wade, 2014).

These readings correspond to two paradoxes Mark Paterson (2006) identifies in theories of consumption. First, consumption is both creative, in that it consummates, and destructive, in that it uses up the object consumed. Second, consumption is both personally fulfilling and ideologically manipulative. These paradoxes are present in Poole’s double-reading of *Pac-Man*, where *Pac-Man*’s appetite is both empowering and so constitutive of a positive female identity but also a representation of the destructive and ideologically malign role of consumption in late capitalism.

This paper traces these paradoxes of consumption further, through the re-imagining of *Pac-Man* in two cartoons: *Pac-Man: The Animated Series* (Hanna-Barbera, 1982-1983) and *Pac-Man and the Ghostly Adventures* (41 Entertainment et al., 2013-).

Eating and consumption remain key themes in these re-imaginings, but by re-locating the main character outside his maze, adding physical characteristics apart from the mouth, and placing him within richer social settings, the meaning of consumption shifts. The *Pac-Man* of the original cartoon series is a Fred Flinstonesque father of a young family. He is still greedy, but his consumption is located within a benign domestic setting that contrasts sharply with Poole’s capitalist maze. Consumption also intersects differently with gender in this show, with the male characters much more interested in eating than the female characters, who often play the traditional female role of food-preparer.

In the more recent cartoon, *Pac-Man* (or “Packster”) is a high-school student. Like Poole’s (2004) original *Pac-Man*, this version also “wants only one thing: to feel whole” (p.307) but, while the original *Pac-Man* is “doomed forever to metaphysical emptiness” (p.307) because his only means of achieving self-identity is through rootless consumption, for Packster consumption is figured as a genuine means of self-discovery.

**Reference list**


Session 1B - Industry History/VR

Chair: Akito Inoue, Ritsumeikan University
Reconsidering Interface and Playability of Japanese Portable Games from 1980s to 2000s: Focusing on Nintendo and Gunpei Yokoi

1980~2000年代の日本における携帯型ゲーム機のインタフェースとプレイアビリティの再検討──横井軍平と任天堂を中心に

Shunsuke Mukae 向江駿佑, Ritsumeikan University

Game studies, which have been developed mainly in North America and North Europe, often deal with local products or English versions. As they don't belong to western culture or were not often translated into English, Japanese games were sometimes hard to obtain and play for western researchers due to linguistic, cultural and legal barriers. As a result, it is even harder to understand the context in which a specific game, especially minor one, belongs.

This presentation aims to help share the context which has prevented the connection of game studies between Japan and western countries. It sheds the light on the Japanese portable games from 1980s to 2000s especially on their technologies and acceptance for this purpose. The main subjects of this presentation are Nintendo, the most important company which has been leading the development and distribution of Japanese portable games, and its engineer Gunpei Yokoi, who invented Game Boy and other unique portable games.

As a result of the present study, we claim that both Nintendo and Yokoi tried to improve the interfaces and playabilities, but in contrasting ways. On the one hand, Nintendo has attached importance to connection between portable games and non-portable games, in which they have advantages like Super NES (Nintendo Entertainment System) and Game Cube, with attachments like Super Game Boy and Game Boy Player. On the other hand, Yokoi emphasized the advantage of portable games, which do not require additional monitors and external power supplies, through his Virtual Boy and WonderSwan. Besides, interfaces of portable games were standardized after Game Boy had established its popularity. Some games like SNK’s NeoGeo Pocket and NEC’s PC-Engine GT followed the style of Game Boy, which has an arrow key or joystick on their left and action buttons on their right. Yokoi, however, introduced unique arrangements into interface design to take advantage of the empty spaces of both inside and outside of games. In this study, those differences of strategies and attitudes between Nintendo and Yokoi are highlighted with screen captures and short playing movies.

This presentation provides a systematic understanding of how Japanese portable games have been changing and the context in which they belong.
including some important games still not widely known as academic subjects for western researchers, and by doing so enables them to compare those and western games or their contexts. For Japanese researchers, this provides an opportunity to reconfirm that minor portable games not as well-known as Game Boy now have great significance and priority to study as pioneers of VR movement and expandability, and engineers’ passions for innovation.
The home video game business originated in the United States and was developed in Japan. Japanese companies developed unique software and exceptional hardware, and exported them to United States and Europe. A huge international market has shaped as a result. Numerous studies have already explored the home video game industry, since it is worldwide big one (Nojima, 2002; Shintaku et al, 2003; Aoyama & Ishizu, 2003; Clements & Ohashi, 2005; Johns, 2006; Storz, 2008; Subramanian et al, 2011; Ikuine, 2012; Balland et al, 2012; Uemura et al, 2013; Cox, 2014). However, a key research issue remains unanswered—How has the Japanese game software evolved over the years? This study responds to this research question. Firstly, it maps out the evolutionary process of the Japanese game software over time. Secondly, it demonstrates innovation patterns in game software. Thirdly, it explains the mechanisms behind these patterns.

The subject of this study is the Japanese game software of the 1980s and 1990s. This study focuses on the 7,162 game titles released by Japanese companies from 1983 through 1999. We categorize them by genre, series, relation to hardware (platforms) and sales metrics. Furthermore, we acknowledge events that are considered to be innovations given their qualitative descriptions. Then we consider whether certain innovation patterns can be identified.

As Japanese companies produced excellent game software titles such as Mario Bros., Pac-Man and Dragon Quest (Warrior), they led the shared concept of what the games are. They impacted subsequent titles and vastly changed how people spend their time. These phenomena are therefore innovations. Particularly, some game software titles can be recognized as creative innovations due to the fact that the dominant categories were established by them. However, creative innovation stagnated around 1986, after which the industry entered an era of inherent innovation. In the era of inherent innovation, competition was seen in terms of product differentiation that increased the sophistication of titles within the established categories. Table 1 summarizes the shift from the creative innovation era to the inherent innovation era. This pattern of product innovation is corresponding to the patterns of other industries, which was indicated by the existing research on innovation (Abernathy, 1978; Utterback, 1994; Christensen, 1997), although their technologies and market environments.
are different.

What mechanisms were at work in the emergence of innovation patterns? This study provides an interpretation with a focus on corporate behavior. The fundamental factor posited by this study is the increased difficulty of striking a balance between development management geared towards realizing novel ideas and development management geared towards improving development productivity. In other words, many Japanese companies found it difficult to balance development productivity with the pursuit of originality, i.e., they faced development productivity dilemma which became gradually serious. This resulted in innovation patterns. The Japanese game software industry may have led the global market throughout the 1990s, but it had internal problems with innovation changes that were not apparent externally.

Data
Data provided by Media Create Co., Ltd.
Data provided by Ambit Co., Ltd.
| 年代 | シリーズ名 | シリーズ内容 | シリーズ形式 | 特長 | 関連作 | 関連作
|-----|------------|-------------|-------------|-----|------|------|
| 1982 | メタルフィールドキック | シリアル形式 | シリーズ形式 | シリーズ形式 | シリーズ形式 | シリーズ形式
| 1983 | メタルガードナー | シリアル形式 | シリーズ形式 | シリーズ形式 | シリーズ形式 | シリーズ形式
| 1984 | メタルコードギア | シリアル形式 | シリーズ形式 | シリーズ形式 | シリーズ形式 | シリーズ形式
| 1985 | メタルギアドクター | シリアル形式 | シリーズ形式 | シリーズ形式 | シリーズ形式 | シリーズ形式

データソース: Author-product database on the data provided by Andi, Co., Ltd.
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SAN-SHIKI Electric Bow System: Applying Projection VR to “Game Sport”
参式電子弓–プロジェクション方式VRによるゲームスポーツへの応用

Masasuke Yasumoto 安本匡佑, Kanagawa Institute of Technology, Takehiro Teraoka 寺岡丈博, Tokyo University of Technology

In this study, we applied our SAN-SHIKI Electric Bow System (hereinafter referred to as SAN-SHIKI) to a “Game Sport” which helps a player experiment the drawing and shooting of a bow more realistically.

SAN-SHIKI is a game device which consists of a real archery bow's components and some pieces of equipment. It includes a Windows PC, a microcomputer (Arduino Nano and control board), 9-axis sensor (VN-100 Rugged), a mobile laser projector, and a battery, so it is just a stand-alone running game device. When the player holds this device, an image determined from the parameters of the 9-axis sensor and the player's shoulder height and arm length is projected in the player's shooting direction. If the player aims at targets in any directions, this system can display images corresponding to each direction; therefore, the player can play the projected contents on room's walls, floor, and ceiling as if the room were changed into an all virtual space.

SAN-SHIKI does not require a real arrow to shoot a virtual content. When the player draws this device as if the player bent a real arrow and released it, the system obtains the parameters of fine strain on the bow's limb from the strain gauge and sends them to the Windows PC via the microcomputer. Then, a flying virtual arrow is projected as if the arrow were shot in real time. Additionally, this device has a solenoid mechanism which acts as a clicker. This solenoid mechanism operates when the player draws this bow to the limit of bending deflection; the player can know a release point of the virtual arrow. Thus, by using this device, the player can feel shooting a real arrow.

Therefore, SAN-SHIKI is an immersive system that

近年VRに関する様々な研究やゲームへの応用がなされているが、その多くはHMDを用いるものが多い。HMDはヘッドトラッキングを有しているものが多く、また近年では視野角も拡大しており、あたかも自分の周囲に世界が広がっているかのように人の感覚をある程度騙すことができる。しかししながら両眼視差を用いた立体感覚の演出は依然として不完全であり、目の前のディスプレイの近辺のわずかな距離での視差は感じさせることができても、現実の我々の手を前もって伸ばした時に感じられる手の位置は映像よりも奥に感じられてしまう。また3D酔いも依然として存在し、HMDをつけた状態で、全力で身体を動かし走ったりすることは困難である。

我々は身体的没入感をテーマにとし、全力で身体を動かすことが可能なスポーツへの応用を視野に入れたシステムを開発した。身体的没入感とはつまり、自分の周囲に別の世界が広がっているかのように、視覚的、聴覚的、身体的に感じさせることができる。そして人の手とは道具を使うために発達した器官であり、それゆえに手から感じる情報は多い。その要素に道具を操作することを前提とし、それを持った時に感じられる重さ、温度、硬度、触感、そしてこれを使ったときに感じられる振動や変化などのフィードバック以上の感覚を使用するため、現実に存在する道具をもとにすることができた。近接攻撃武器では相手にあてた時と当たらなかった時に感動を変えなければならず、そのリアリティの追及と表現はグロテスクになり、面白さとは別のものである。遠距離武器では当てたかそうでないかは関係なく、撃った時の感覚が存在すればよい。そこでアナログ的に威力を調整可能で安全性の高い弓を素材として選定した。
参式電子弓は洋弓をベースとして、内部にコンピュータ、センサ、バッテリ、プロジェクタなどを全て内包したスタンドアローンで動作可能なゲームデバイスである。弦を向けた方向を認識し、その方向にゲーム空間中のその方向の映像をリアルタイムに投影する。つまり自分の周囲に世界が広がっており、自分が狙っている方向だけその映像が見えるのである。また、弓としてのリアリティを追求し、弦の引き量を常に計測し、限界近くまで弦を引くと現実のリカーブボウに存在するクリッカーを模したソレノイドによる機構が作動する。参式電子弓では矢は使用しないが、あたかも矢が存在するかのように弦を引き空射ちすると、その引き量に応じて弦を話した瞬間に、センサが反応し、その情報はマイコンを経由しコンピュータに送られ、仮想の矢をプロジェクトよりリアルタイムに投影される。これにより本当に矢を撃ったように感じさせられるのである。

changes a room into a virtual space, surrounding the players in 360°, in which techniques of drawing a bow and shooting real arrows can be practiced.
Session 2A - Content Analysis

Chair: Geoffrey Rockwell, University of Alberta
This paper examines the representation of war in Japanese videogames. War-themed strategy games and first-person shooters are extremely popular genres in the North American and European markets, with titles such as *Call of Duty* (Infinity Ward, 2003) allowing players to experience historical battlefields in WWII. However, the Japanese market, while dominant in the world videogame industry, is noticeable for a lack of such titles. Until recently, the most popular ‘war games’ have tended to indicate strategy games set in the feudal era, with titles such as *Nobunaga’s Ambition* (Koei, 1983) and *Onimusha* (Capcom, 2001) enjoying a large fan base. However, the emphasis on the historical setting in these titles distances players from modern warfare.

Games which feature planes and warships from WWII have included 1942 (Capcom, 1984) and its sequel 1943: Battle of Midway (Capcom, 1987), or the *Steel Knight* (Koutetsu no Kishi) series from General Support in 1991. However, these games take the point of view of the Allies in the Pacific Theater or the Germans in Europe, avoiding the Japanese side of the Pacific War. More recently, DMM Games introduced the *Kantai Collection* online game (2013), with cards featuring WWII battleships anthropomorphized as young women. Although this title is based in the Pacific arena and features actual battleships from history, the game simultaneously eroticizes and trivializes war through the use of hyper-sexualized female figures. It is telling that the more recent, gender-swapped version of the game, *Touken Ranbu* (DMM, 2015) is not set in the modern era but follows a sword-based, fantasy theme. While *Touken Ranbu* showcases masculinity, it is a sexualized and objectified machismo that has once again reverted to the distance of the feudal aesthetic.

This paper argues that a prevailing attitude of ambivalence towards the Japanese role in WWII plays a large part in the unwillingness of developers to tackle such contentious issues in a game narrative. In this context, the *Metal Gear Solid* series of Kojima Hideo stands out for its serious treatment of nuclear weapons and human responsibility. I will end with a short treatment of *Metal Gear Solid* (1998) as a significant text in the Japanese discourse on war. While the series is problematic, positioning Japan as a victim, I hope to demonstrate that it gives value to the ‘non-heroic’ narrative of the Japanese wartime experience. Interestingly, Kojima’s series pioneered the stealth action third-person shooter genre, coming full circle as a major influence on Western shooters and war games.
Disaster Games from Anthropological Aspects- A Study of User Experience of Zettai Zetsumei Toshi Series

Saori Amano, Kahono Sakakibara, Kiyotaka Matsunaga, Nanzan University, Keiji Amano, Seijoh University

1: Disaster game from anthropological view
This research has an aim to study the peculiarity of Japanese culture through the game series Zettai Zetsumei Toshi originally released in Japan and localized in the US as Disaster Report and in Europe as SOS: The Final Escape. In particular, by playing this game, we see points in which non Japanese players feel awkwardness or uncomfortableness and also try to see why they feel that way from an anthropological view.

The game series Zettai Zetsumei Toshi is an action game based on a made up disaster city in Japan. The main character needs to escape from a dangerous place to one that is safe. This game has a foreign version but the only difference is the appearance of characters. The story line in those versions is the same.

2: Anthropology in Games
Concretely, this research is to examine how the “user experiences” are reflected by each person’s cultural background.

Mizutani (2002) pointed out that occurrence of disaster is caused by the power of nature, natural elements (such as topography and soil condition) and social elements (such as population, facilities and industrial distribution). In this research, we focus on foreign people who live in Japan as one of the social elements. We think Zettai Zetsumei Toshi that is originally based on Japanese society unwittingly explain Japanese “culture of disaster (Sasamoto 2003)”, that is, an accumulated collective consciousness and behavioral pattern against disaster [Yamaguchi and Tanaka 2003:23]. The choices the player makes or the acts which the characters make throughout the game are very natural for those who are raised in Japan. However, it can be unnatural for those who are raised in other cultures. We try to figure out the reason why they feel peculiarities.

The method of this research is mainly based on an inquiring survey. We will listen to some “user experiences” from those who are from other countries and those that are here living in Japan. The interview will be conducted in English and Japanese.

For the interview we will make a list of questions. Questions will be divided into two sections. The first section is about informant’s game experience in order to know how they are familiar to be in a fictional environment as a game player. The second section is about how informants feel for actions of characters, appearance of stages, and items on the game, while they are playing this game in order to know the different way of feeling depending on informant’s cultural background.

McLuhan (1999) said “The games of a people reveal a great deal about them” [McLuhan 1999: 238]. From an anthropological aspect, we can also say it is helpful for understanding yourself and others to focus on these uncomfortable feelings people feel through the game and to find the cause of that feeling. It is because those uncomfortable feelings come from encounters with others.

3: Different Discourses
Japan has a lot of earthquakes compared to the other countries. Disaster is one of the biggest aspects when you think about Japanese society or Japanese culture. This time, we expect that we are going to see something new by watching other people’s perspective through Zettai Zetsumei Toshi.

In this presentation, we report the information which we collect from informants and the different discourses of this game in the review sites in Japan and other countries.

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Effects of Video Games Requiring Immediate Response on Emotional Experience

Tomohiro Kimura, University of Tokyo

This study examines the effects of video games on emotional experience and stress response. Two experiments were conducted using the Emotion and Arousal Checklist and salivary α-amylase. Subjective data from the questionnaire and saliva samples were collected twice, before and after participants played video games. In Experiment 1, 30 university students were randomly assigned to the following three groups: skill learning, fighting, and control, comprising 10 participants each. The skill-learning group and the fighting group both played a fighting game. The skill-learning group played in training mode, which requires players to learn skills for the fighting game, while the fighting group played in match mode, in which players fight computer-controlled characters. The control group played a game in which players leisurely enjoy village life. In Experiment 2, 10 expert players and 10 novice players participated, with each group playing another fighting game. The results show that there were no significant differences in salivary α-amylase among the three groups in Experiment 1 and between the two groups in Experiment 2. However, there were significant differences in the subjective indexes: tense and energetic arousals were significantly evoked in both the skill-learning group and the fighting group. Additionally, the results show that expert players, defined as those who have long-term experience with a particular video game, sustained energetic arousal for longer than those without such experience.

Games
Figure 1. Mean salivary α-amylase activity results from Experiment 1.

Figure 2. Mean Energetic arousal + results from Experiment 1.

Figure 3. Mean Energetic arousal + results from Experiment 2.
Session 2B - JRPG in Context

Chair: Stefan Schubert, Leipzig University
The discipline of Game Studies has shown that games are much more than mere entertainment (e.g. Fromme/Biermann/Unger 2010). While they foster diverse competences regarding reaction time, tactics or social skills, games can also provide different types of knowledge (see, e.g., Könitz/Fromme 2014). Although they are being seen as a progressive medium for education, at least within the field, their acceptance in society for educational purposes is worthy of improvement. The intent of my research is to show the educational potential of Japanese games by analyzing two examples of the genre JRPG.

Among all the different genres, I will focus on the quite widespread genre of Japanese role-playing games (JRPGs). It is one of the most popular genres from Japan (Nakayama 2015) and has certain characteristics which are interesting for educational purposes. Roggers (2014, p. 497) describes a key aspect of this genre by stating that that “[a] greater emphasis is placed on interpersonal relationships and story than found in traditional RPGs.” In their 2009 book Jörissen and Marotzki have shown that the possibility of changing the appearances of an avatar can result in a personal expression of the player and identification with the avatar. The JRPG genre uses mostly premade characters whose appearances or characteristics can’t be changed. The player is thus more of an observer who can reflect from a distance upon the avatar’s actions and behavior.

Because of the few studies in the field of JRPG, I follow a quality research-orientated approach.

As method for my research I have chosen the Computer Game Analysis Model by Fromme and Könitz (2014). This model focuses on the narrative and structural level of games as well as their educational potential. Therefore, it follows the argument of Marshall McLuhan’s (1994) famous quote “the medium is the message”. I work under the assumption that the narrative level is not the only component which is important for “sending the message”. As I have mentioned before, the genre of JRPG already has certain structures which it is well-known for.

With the help of this model I will analyze two games in an exemplary manner. The first one is Persona 4 (ATLUS 2012). The series had (and still has) a huge commercial impact on Japan. This impact resulted in the subsequent production of two anime and different spin-off games. The interesting aspect is the plot of the game. It is based on the “persona”-theory of the Swiss psychologist Carl Gustav Jung which describes basically processes of socialization that create a metaphorical mask of a certain self-image. It is like a social role played by a person to be accepted by society. Although his theories are not directly communicated to the player within the game, they can be understood due to the structures of the game. The player fights evil versions of his team members and learns by means of sound, visualization, gameplay and the narrative that people in society generally wear masks to hide their flaws. The second game is the well-known Final Fantasy X (Square 2001). In the center of this game is not only a love story, but more importantly, especially for my research, it teaches the player media literacy, e.g. a critical view on what is presented as facts. This is achieved by building up a story full of wrong expectations which will then be slowly investigated and questioned throughout the journey within the game.

In conclusion, I’m going to show that the characteristic features of the JRPG genre create an educational space which could possibly be adapted to the area of Serious Gaming.

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What are we truly saying when we talk of JRPG?

Over the years, the field of games studies has adopted the term JRPG as a viable genre category to identify a certain corpus of video games originating in Japan and that has penetrated the Western video game cultural landscape since the 1990s. However, a closer examination indicates that the spread of this term is deeply dependent on the global network proving the distribution and reception of these games, sometimes relying on journalistic and fan discourses to do so. Indeed, while the term is broadly used in North American and Europe, talks of a specific JRPG genre in Japan are virtually nonexistent.

The notion of JRPG is a difficult object to handle in the context of academic enquiry, often leading writers to address them only in term of broad generalization cultural determinism. So far, little academic work had focused on uncovering the circumstances of the rise of JRPG as a genre denomination in gamer parlance. Douglas Schules has explored modern JRPGs in the light of the kawaii culture (2015) and has also raised academic interest in the definition of JRPG within fan communities as a negotiation between the elements of gameplay mechanics, fictional settings and Japanese exoticism, striving to pin-point where exactly JRPGs begin to diverge from traditional RPGs understood to belong to the Western game design tradition (2012). More research is certainly warranted, but a major problem that holds back innovative work on this topic is the absence of a clear understanding of the historiography of the genre. Understanding the circumstances and the manner in which journalists and fans started to identify specific games as JRPGs, as well as how this discourse evolved, is crucial in properly evaluating how reliable and productive this term is when talking about Japanese game culture in a scholarly context.

This paper is meant to provide the first step in larger project of the study of the genre by providing an outline of the evolution of the discourse surrounding Japanese role-playing games in Anglophone online gaming press. This approach relies on the distant reading (Moretti) of a large corpus of 2054 JRPG reviews published by ten different websites spanning 22 years between 1992 and 2014. This corpus was analyzed using the Voyant tool set developed by Stéfan Sinclair and Geoffrey Rockwell, and MALLET (MAchine Learning for Language Toolkit), an open-source topic modeling software developed by Andrew McCallum. The former is a comprehensive tool that allows for a variety of approaches ranging from the generation of text clouds to searching for the frequency of specific words while the later is a software dedicated to the generation of topics from a corpus to highlight relationships between its individual texts. The results of this text analysis will provide a comprehensive picture of the dominant discourses provided by the gaming press since the 1990s, explaining the circumstances of the introduction of the term JRPG in Anglophone video game culture vocabulary. The presentation of these results will focus on three specific years that are key in understanding the evolution of this discourse: 1997, 2004 and 2007.

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The 20th anniversary of *Pokémon* videogames offers a chance to look back on this seminal Japanese transmedia franchise and turn a critical eye at the two decades of history and development it has gone through.

Throughout its existence, *Pokémon* has been examined from many angles. Its origin as a videogame and the effects this heritage has had on the whole entertainment supersystem (Kinder 1991, 122) of *Pokémon*, however, have often been neglected. The first videogames in the series came about at a time when Japanese console role-playing games had already become an established genre, and the logic of this growing genre along with *Pokémon’s* unique contributions to it ended up becoming central to the whole emerging franchise. Though comprised of many different media, *Pokémon* – at its heart – is constructed around role-playing games.

But in all this, a question looms unanswered: what does it mean for *Pokémon* to be a roleplaying game? It is easy to call *Pokémon* a role-playing game or a “JRPG”, but the history and implications behind this statement are all too rarely examined.

To formulate an answer, I position *Pokémon* in relation to the transnational history of role-playing and role-playing games; I analyze them as phenomena tied to local traditions but being affected by global flows of popular culture. In this, I draw on research of roleplaying (e.g. Heliö 2004, Montola 2008, Waskul 2006) and role-playing games, from tabletop games to live-action role-play and from computer role-playing games to console role-playing games (e.g. Hitchens & Drachen 2008, Mackay 2001, Kamm 2011, Huber 2009). This is connected to studies of the various Japanese transmedia practices known as *media mix* (e.g. Steinberg 2012 & 2015; Ōtsuka 2010). By doing so, openings are created for examining role-playing – both as an activity and as a collection of transcultural entertainment objects – in *Pokémon*.

Stemming from a heritage of role-playing games and deploying an almost extreme usage of the media mix, *Pokémon* has over the years become an ontologically complex participatory form of storytelling. By proliferating the “Pokémon Trainer” as an identity and primary position for consumers, *Pokémon* transforms interaction – be it playing the videogames or visiting a real-life Pokécenter – into a form of role-playing where the storyworld and the players’ quotidian reality bleed into each other, forming a ludic frame of interaction and interpretation – an enchanted everyday.

This analysis of *Pokémon’s* design offers a closer look at the modalities of Japanese console role-playing games and helps in positioning them among the wider global field of role-playing games. Added to the work done on *Pokémon* in the last 20 years, it also helps us to further understand the draw of *Pokémon’s* media mix and the role-playing aspects inherent in it – with implications to the development and reception of Japanese pop culture far and wide.

KEYWORDS: Pokémon, role-playing games, game design, transmedia, media mix
Poster and Game Demo Session (PGS)
How to Retain Players of Strategy Mobile Games?
Wei Wei, University of Alberta

With the development of software and hardware of mobile devices, more and more users turn to play mobile games rather than desktop games. Among diverse categories of games, strategy games show an outstanding performance on the gross of downloading and business value. A strategy game or strategic game is a game in which the players' un-coerced, and often autonomous decision-making skills have a high significance in determining the outcome. Team strategy, Simulation, and war-game are three of most popular subclasses of strategy game. Therefore, in this paper, I will focus on three successful games covering these three subclasses, Clash of Clans, Plague Inc. and SimCity BuildIt.

Through analyzing top 25 mobile games downloading times for both free and paid of iPhone and iPad games in http://www.topappcharts.com/, nearly a quarter of which are strategy games (Figure 2-1). From the Figure, we could see the potential value of strategy game for its great volume players, intriguing me to study on this topic.

From the research by Apsalar.com (Figure 2-2), the value of propensity for in-app purchases shows the potential business value of different types of games. Generally, the strategy games gain the most profits among others.

San Francisco-based Flurry took a look at different genres of games to see how they retain and engage users over 90 days (Figure 2-3). In the research, a phenomenon caught my attention that strategy games present the most frequency of use per week, however only less than 20% of users retained them.

Normally, the factor of a great number of players and high incomes should be proportional to the degree of popularity and retention. However, why there is a contradiction of strategy games?

With these concerns, two main questions of this paper are:
• What features make strategy games more playable?
• What can designers do to improve customer retention on strategy games?
Our Activities to Increase the Public Acceptance of Games for Society in Japan

Megumi Aibara,粟飯原萌, Masakazu Furuichi, 古市昌一, Nihon University

Just like anime, computer games are a form of Japanese culture that is popular overseas, and they are one of Japan's representative industries. The scale of the domestic Japanese game market reached 1.1925 trillion yen (100B Euro) in 2014 [1], and of this the games aimed at smartphones led the market by posting an outstanding figure of 715.4B Yen (6B Euro). In addition, the average number of employees per company of related corporations was 371 persons [2], and it can be seen that the majority were medium or large sized corporations. On the other hand, it has been reported that the scale of the video game market in the Netherlands, whose population as of March 2016 was 1/7 that of Japan (17M persons) was 568M Euro (68B Yen) in FY2014[3], the total number of employees is 3,030 persons and the average number of employees is 6.7 per company. In the Netherlands, the game software industry has grown rapidly in recent years, and the number of game companies has increased by 42% from 320 companies in 2011 to 455 companies in 2015.

The thing that is propelling forward the expansion of the computer game market in the Netherlands may be the high degree of acceptance of "games" among the public. For example, all of the mayors in the Netherlands carry out annually games in order to raise the ability of their decision making to cope with crises, and some healthcare institutions have sections that carry out planning and development of games. In this way, the games that are utilized for training, research, healthcare support and so on in companies and organizations are called "applied games" in the Netherlands (these are called "serious games" in Japan, the USA or other countries). Of the above-mentioned 455 companies, 119 companies have specialized in applied games, while 35 companies are engaged in both entertainment and applied games.

On the other hand, there have been few attempts to actively introduce "games" in companies for training in Japan. Moreover, even in applications that actively incorporate game technology, it is almost always the case that the term "game" is not used. This difference between the two countries may lie in differing social acceptance when it comes to "games".


オランダにおけるゲーム市場拡大の牽引力となっているのは,社会における“ゲーム”的受容性の高さであると考えられる.例えば,国内の全社長が危機管理対処能力を高めるためのゲームを毎年実施し,鉄道会社の社員は乗客とのトラブル対処等をゲームにより訓練し,医療機関の一部はゲームの企画・開発を行うセクションを持っている.このように,会社や組織等で訓練,研修,医療支援等のために利用されるゲームのことをオランダではアプリードゲームと呼び（我が国ではシリアスゲームと呼ぶ）,上記した455社中119社がアプリード専業,35社がエンタテイメントとアプリードの兼業である.一方,我々では会社や組織等で積極的に“ゲーム”を導入する試みが少なく,ゲーム技術を積極的に取り入れたアプリケーションにおいても,“ゲーム”という用語を使わないことがほとんどである,両国におけるこの違いは,“ゲーム”に対する社会的受容性の違いであろうと考えられる.

今後,我々が国における“ゲーム”的社会的受容性向上により,我々が持つゲーム開発力を幅広い社会活動に活かす事が可能となり,社会全体に貢献できると考えられる.そのためには,シリアスゲーム（以後SGと呼ぶ）についての国民による理解の向上に加え,ゲームクリエイタでなくてもSGを構築可能になることが必要条件である.そこで,以下に示す活動が必要であると考える.その内容について本稿では報告する.

第一の活動は,ゲーム開発の経験がないソフトウェア開発技術者がSGを構築可能とすることで,そのために我々は構築プロセスSGDP（Serious Game Development Process）を提案した. SGDPにより多くのSGが試作され,今後更なる普及が期待される.
"SG") is the key, and the development of many SGs are very important. To make it happen, introducing a good method to develop SG even if someone is not a game creator. Accordingly, we believe that the activities shown below are necessary, and we will report in this paper.

For the first activity, we have proposed a SGDP (serious game development process) by enabling wherein software developer with no experience in game development can develop SG. Many SG have been developed by SGDP, and their further spread is anticipated from here on.

For the second activity, we have proposed SGLM (serious game-based learning materials development method) for that purpose by generalizing the method for incorporating in the educational materials the factors of increased motivation and continued learning provided by games (Figure 1).

For the third activity, we have proposed the method for managing events to build SGs in 2 days. The event is called "serious game jam" (hereinafter, "SGJ"), and our proposal is to develop a manual which will be useful for SGJ organizers or instructors at school who would like to introduce SGJ type events in their classes.

Through the above-described three activities, it is expected that SG whose purpose is problem solving in various field will be developed and applied in Japan in the future, and their effects will be demonstrated. As a result, we believe that increased public acceptance of games will be achieved, and the power of games will more contribute to the society.

第二の活動は、教育現場で教員が学習用教材を作成する際に、ゲームの持つ意欲向上と持続の要素を教材中に盛り込むための方法を一般化することと、それのために我々はSGML(Serious Game-based Learning Material)を提案した（図1）。

第三の活動は、教育現場及び企業・組織等の研修現場を対象としたもので、シリアスゲームジャム（以下SGJと呼ぶ）と呼ばれる2日間でSGを構築するイベントの実施方法をマニュアル化することである。これにより、様々な分野でSGJが効率的に実施されることが期待される。

上述した3つの活動を通し、我が国において様々な分野の問題解決を目的としたSGが今後開発されて現場で適用され、その効果が示されることが期待される。その結果として、“ゲーム”の社会的受容性向上が段階的に達成されると考える。

Analog Gaming Culture in Japan (TRPG and Miniature Wargames Otaku)

Philip Lindemer, University of Bonn

Since Otaku were first introduced to the Japanese public when the Tokyo/Saitama Serial Kidnapping Murders of Little Girls occurred in 1989 which triggered an “otaku panic” (KINSELLA 1998: 312), the image of Otaku has come a long way. The rising popularity of Japanese anime, manga and video game culture worldwide led to a change in the perception of Otaku in Japan. Their image changed from potential child murderers to pioneers of Japanese Geek - or Otaku – culture (KIKUCHI 2008). In the wake of this, they became a symbol of the “Cool Japan” campaign launched by the Japanese government to promote anime, manga and video games made in Japan as a product to export to overseas. Lately a large part of the Japanese population seems to have a little bit of an Otaku inside themselves, shown by a statistic released by the YANO (2012: 33) Research Institute which estimates, that around 16% of Japanese are some kind of Otaku. It appears that Otaku culture, which was once seen as a subculture, is in the process of becoming a mainstream phenomenon. This is especially true for the main content of Otaku culture: Anime, manga and video games. Nowadays almost everyone in Japan reads manga, watches anime and plays video games, be it on PCs, gaming consoles or smartphones. This shift from content that was primarily enjoyed and consumed by a tangibly sized subculture to content which is enjoyed and consumed by the masses, makes it very difficult to define what an Otaku actually is.

The research I conducted for my PhD thesis on Otaku revealed, that some Otaku related hobbies are more accepted by society than others, mostly those which did not become part of mainstream culture. These less accepted hobbies and the people who engage in them and consider themselves to be Otaku are my field of research. Over the course of 2015 to 2016 I have been studying the audience of table-talk role-playing-games and miniature wargames in Japan (Tokyo/Yokohama area) and have been interacting with them frequently. By analyzing data I have collected during this time by using in depth interviews, field-interviews and taking part in the activities role-play and miniature game Otaku engage in, I want to provide an inside look into this kind of Japanese analog gaming culture and its rituals. I paint a picture of gaming events, the way players engage with each other and how social and cultural capital (BOURDIEU 1983) is handled in the gaming communities and how and why they play. Further I want to provide a case study of how fluid the boundaries between audiences of different Otaku genres are. For example how anime, manga and video games meet war and role-playing games and vice versa. At the current stage of my PhD related research I am also considering to take a look at the process of becoming an Otaku through the lens of rational-choice theory (ESSER 1999-2002; KUNZ 2004).

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The Design and Development of Turntable-type User Interface for Data-Browsing: A Case of Video Game Archives

ターンテーブル型UIによるデータベース閲覧手法の提案 —ゲームアーカイブを題材として—

Shinya Saito 斎藤進也, Kazufumi Fukuda 福田一史, Kazutoshi Iida 飯田和敏, Ritsumeikan University

There are various databases that are publicly available in many fields. In that context, the number of databases are related to popular entertainment are increasing. Such databases are supposed to be able to be often utilized, because they have the entertaining tendencies basically. However, the cases of utilization are very few.

With this situation in mind, we are designing and developing original user-interface that intend to databases in the entertainment fields, especially video games.

In our research, the 3 development-policies of the following list have been set.
1. To utilize the leading-edge data-visualization methods.
2. To adopt the elements of play to the data-browsing.
3. To implement the practical functions for data-analysis.

Related to (1), D3.js that is JavaScript library for data-visualization was adopted. That has made it possible to draw the graphic for visualization flexibly.

Related to (2) and (3), the composition process in the hip-hop music has been referred. Then, we put “sampling” and “mix” into the process of data browsing and analysis as a sort of gimmick. That aims to add entertaining tendency to the operation of databases.

Moreover, the dataset of video game was imported to the DB/DJ that is original visualization tool in our research. As a result, the possibilities of our visualization method were suggested though a testing operation.

We would like to demonstrate DB/DJ in this conference, moreover discuss the usefulness with other participants.
SAN-SHIKI Electric Bow System: Applying Projection VR to “Game Sport”
参式電子弓–プロジェクション方式VRによるゲームスポーツへの応用
Masasuke Yasumoto 安本匡佑, Kanagawa Institute of Technology,
Takehiro Teraoka 寺岡丈博, Tokyo University of Technology
See page 25 for abstract.

Game Applications of Dynamic and Spatial Connections between Multiple Mobile Devices
マルチモバイルデバイスによる動的かつ立体的な連携のゲームへの応用
Masasuke Yasumoto 安本匡佑, Kanagawa Institute of Technology
Takehiro Teraoka 寺岡丈博, Tokyo University of Technology
See page 51 for abstract.

AlexG – Bug Xterminator 1st public demo and feedback gathering,
Nathaniel Tan, University of Calgary
Session 3A – Para-gaming
Chair: Hiroshi Yoshida, Ritsumeikan University
Representation of Play: Pachinko in Japan
Keiji Amano, Seijoh University, Geoffrey Rockwell, University of Alberta

1. Introduction

These silver balls are you. They’re your life itself. (Ikiru, 1952)

How is play represented in Japan? For more than 60 years, the most popular leisure activity among Japanese has been pachinko, so it is no surprise that pachinko has been shown in other arts from cinema to novels. Notable cinematic works include Ozu’s The Flavor of Green Tea over Rice (1952) and Kurosawa’s Ikiru (1952). But what do these representations show us about play in pachinko and do the representations differ over time and culture? This paper will look at a selection of Japanese representations of pachinko in cinema and novels as a way to understand how pachinko becomes a metaphor for Japan. To do this:

• We will look at how pachinko was depicted in the 1950s when the first parlour boom took place.
• We will then also look at two later novels where pachinko serves as a backdrop.
• We will end by discussing how representations have changed over the decades.

2. Representations in films and novels

Pachinko is so mundane in Japan that it no longer needs to be explained, but that was not true in the 1950s. It is in this context that we can look at how Yasujiro Ozu’s The Flavor of Green Tea over Rice repeatedly shows pachinko being discussed and played. We will deal at length with this film as it shows how different the experience was of a small pachinko parlour. In the 1950s pachinko was a family business. We will contrast Green Tea Over Rice with Kurosawa’s Ikiru (“Life”) where pachinko is a metaphor for a frivolous approach to life. The “Mephistopheles” of the novel compares pachinko to life as we watch a ball dribble down bouncing off the nails.

Ozu is useful to our study because he goes beyond using pachinko as a metaphor, he shows us a game in the 1950s that involved more skill than today. At that time the machines were entirely mechanical and therefore the odds varied as the angle of nails changed with repeated play. One character in the movie seems to be a professional (pachi-pro) who plays hoping to beat the parlour that continually fixes the nails at night sending in the kugi-shi (nail-man) to correct the nails of machines. Over time, and with the introduction of video-slot elements, the balance between skill and luck has changed as parlours transformed gradually into an industry from a family business.

Giichi Fujimoto’s short novel Kugi-shi (1978) also uses pachinko as a metaphor for life as Kurosawa does. It is a story of a duel between skills, pachi-pro and kugi-shi. He describes pachinko as follows; “[the] weight of one pachinko ball is just less than 7 grams. Because it is launched from the flipper and fingertip, it is natural that it goes in the wrong direction. It’s much like life. You sometimes face a little nail and it will bring you to wander somewhere you don’t want to go.” (Fujimoto 1978, p.214, our translation)

Miri Yu’s dark novel Gold Rush (2002) is a more recent and darker example. The main character Kazuki is the 14-year old son of the owner of a pachinko parlour empire. Searching for meaning Kazuki kills his father and tries, like Oedipus, to take over his empire. The empire of pachinko with its ill-begotten wealth is a backdrop of emptiness standing in for a Japan with no soul. This is the Japan of the economic bubble of the late 1980s and early 1990s; a bubble punctured by a selfish son.

3. Changes in representation

Through those representations, we can see some changes in how pachinko has been represented in Japan. In the 1950s, pachinko was depicted as a new form of amusement activity so that directors tried to understand and picture it in a social or playful context. In the 1960s-80s, pachinko was not a collective or a purely solitary game but a duel between player and parlour or between pachi-pro and kugi-shi. A parlour or a kugi-shi are neither non-player characters nor player characters in this game, but a pachi-pro usually understands how these „defenders“ try to control this game. In this situation a professional player concentrates on a dialogue between the movement of balls and himself. In Ozu’s film and Fujimoto’s novel, there are the scenes that show how pachinko at that time was a game between „humans“.

It was the late 1980s when pachinko became a considerably larger industry. Increasingly electronic machines pushed the nails and kugi-shi to the side. Pachinko became more and more like video-slots where skill is irrelevant. It therefore isn’t surprising that directors and novelists would look at pachinko as an opaque industry or an activity that has deep darkness.
4. Bibliography
Playing opera: The influence of European music traditions on the Japanese videogame “Final Fantasy VI”

Cäcilia Sauer, Leipzig University

Japan – land of the rising sun and home of videogame culture. In the 1980ies Japanese companies like Nintendo and Sega saved the videogame industry from its early decay, today the country still holds a special place harboring classics like “Pac Man”, “Super Mario” and the “Final Fantasy”-series. However if one looks closely, most of these games do not deal with traditional Japanese themes: a hero, who is shaped like a Hockey puck, an Italian plumber, dragons and damsels in distress. The western culture surely has a great impact on Japanese videogames.

Therefore since the early days of digital games, Japanese videogame music has always been influenced by European music traditions in a most significant way. For example the trained composer Koichi Sugiyama – and “Father of Video Game Music” – intended to compose the soundtrack for the 1986’s video game classic “Dragon Quest” in the classical style of European music and did thus draw on the basso continuo of baroque music. On the other hand Nobuo Uematsu, being famous for his compositions for the “Final Fantasy”-series, clearly refers to western pop musicians like Elton John. But have Japanese music traditions really just simply been replaced like that?

One of the most well-known examples in the usage of European music tradition can also be traced back to Nobuo Uematsu and the music of “Final Fantasy”: The Mini-Opera in “Final Fantasy VI” (1994). In this short sequence of the Super Famicom’s videogame classic, the game refers to typical conventions as well as clichés of the European opera business – especially the Italian opera – by including an extrovert impresario, an idolized opera diva and so on. Nobuo Uematsu even composed a short aria called “Aria di mezzo carattere”, where the player is put through Celes (one of the playable protagonists) in the role of an opera singer and must choose the right phrases to complete the aria.

This paper intends to take a closer look at the opera scene in “Final Fantasy VI”. With the help of this distinctive example it tries to examine the influence of European music traditions on Japanese videogame music and – most importantly – in what way these traditions may also have been altered. This does not only include the usage of European composition techniques (which will be followed by a historical introduction into the early Japanese videogame music). Instead the paper will especially examine a more dramaturgic theme of the comic opera: the usage of entanglements and mistaking. Both of them play an important role in the opera sequence, for the opera diva Maria appears to be Celes doppelganger. Hence this paper will compare how both the Italian opera and the Japanese theatre handle this specific topic, and how it is incorporated in “Final Fantasy VI” – be it in the inclusion of music, narration or role of the gamer itself.
Today, video games and their music are ingrained in our culture. Game tunes such as Hirokazu Tanaka’s version of the Russian folk song “Korobeiniki” as heard in Tetris, Pac-Man’s “Wacca-wacca”-sounds or Kondos Super Mario-theme are reused within diverse cultural frames and practices. Hereby, even people who do not play video games themselves come in contact with games and their tunes, be it in movies, advertisements, TV shows or art projects. Classic concert performances of video game music as common in Japan since 1987 are now drawing new audiences into Western concert halls, too. Furthermore, Japanese video games, their music and 8-bit aesthetics as created during the 1980s have influenced the development of musical genres like Hip-Hop, Synthpop or Electro. Even full-fledged musical genres such as Chiptunes, Nintendocore, Bliphop or Bitpop have sprung up.

In this paper, the musical legacy of 1980s Japanese video games and their music will be traced within the frame of several cultural practices in a first step:  
1. Original game music and its further use in art and culture.
2. Game music and classic concert performances.
3. Games and popular music.
4. Game music and participatory practices.

Strikingly, in many of these practices the notion of “game music” seems to be closely linked to the 8-bit aesthetics of early game music rather than to the compositions themselves. As Chris Tonelli has proposed in his paper The Chiptuning of the World: “When the sound worlds afforded by early programmable sound generators became widespread globally through the consumption of arcade games and, later, home computer and gaming systems those sounds arrived in the ears of many listeners, relatively undercoded. The bleepy sounds produced by the early forms of game sound synthesis likely would not, in the early days of video gaming, have evoked belongingness to any „real” cultural group or any bygone cultural era.” (Tonelli 2014, p. 411) Therefore, it will be discussed in a second step, whether this “uncodedness” of the sound has contributed to spreading Japanese game music at first, whereas nowadays it is this “bleepy sound”-aesthetics that is associated with “game music” and game culture as its cultural context – even in cases of a distinct musical culture such as chip music.
Session 3B – Educational perspectives

Chair: Sonja Ganguin, Leipzig University
Game Design Combined with Science Workshop for Increasing Motivation in Studying Science in Children

Sara Hojjat, Chiaki Ikemoto, Tomoyuki Sowa, Kobe Design University

Keywords
Game Design; Maze and Mirror Game; Science Workshop; Playful Learning; Real Time Video

The research project discussed here, examines attempts to increase the motivation of elementary school students in basic science by the means of designing a science game. To realize this goal, the maze and mirror game was designed and a workshop was held based on the game which teaches the concepts of light and reflection during joyful group play. It is basically a conventional maze which is solved with light instead of a pen on paper. A laser beam emits from the starting point and players direct it toward the correct path by using a mirror or prism, putting the reflective devices at the correct point with the proper orientation to divert the Laser beam to the right path and continue this manipulation until they reach the final goal (Figure.1). It is designed to teach students about light and reflection while playing an enjoyable game. This game was redesigned on a bigger scale to be held as a workshop for students to study its effect on student motivation for science leaning. The workshop steps were designed as seen in Figure 2 and 3(Table.1). An indirect educational atmosphere based on a designed game can allow children to think, play and discover actively. Children will be motivated if they have the chance to do something by themselves and feel that they did it! In this research, two methods were considered for sharing. One involved sharing through consultation time in group work, and the other sharing through reflection by Real Time Video (RTV) which is a video shown to students in the last step of the workshop to reflect their reactions to the game (Figure.4). The results of the game were evaluated by RTV and two other types of questionnaires and showed improvement in all aspects. The game in the Shimada elementary school in Japan was studied and the results revealed that students were impressed by the game as a new atmosphere in which to learn while they are playing. The questionnaires revealed that 91% of students liked the game very much and 81% favored having these kinds of games in their science classes. In one of three scientific questionnaires, there was a 46% improvement in the subjects’ knowledge about light. They learned more than what was expected from this game in terms of both theoretical physics and its practical application. For example, students learned that a laser beam enters and exits a mirror at the same angle. They also learned that when a laser beam is reflected by several mirrors, the beam becomes thinner. This is something that can only be learned through practical or hands-on experience. They enjoyed working with their hands with new things in a new learning atmosphere as much as they enjoyed working together, doing something by themselves and watching themselves through the RTV. They had useful suggestions to create a better game and believed that advantages of the game-based workshop over their normal science classes are the possibilities of learning while having fun, learning in person rather than studying books or taking notes, studying and interacting in a bigger space than their classroom, cooperating with classmates, discussing their opinions and, being involved in the learning process, which one of them expressed by saying "I felt the game with my body". They also had the chance to evaluate themselves in the RTV. Their answers to the RTV questionnaire showed their attention in all aspects, their feelings, their facial expressions and the extent to which they were successful encountering with the game and how they believed they could improve. The main achievement of this game for students can be categorized into four main areas: Creating thinking and independent learning, playful learning atmosphere, a chance to learn in group activities, and a feeling of accomplishment. Considering game components, a stand for laser pointer that has the possibility to move in any direction smoothly will help students to transfer light with more accuracy. It will be great if there is a chance to study same group over one-year period of time to have a better evaluation of this system on students’ interactions.
This study focuses on exploring and understanding how Japanese language teaching can be integrated with informal learning through the use of role-playing simulations. With the goal of ultimately proving the effectiveness of gamified educational software, this study utilizes a prototype Japanese Language and Culture video game to study the learning motivational effectiveness of such a medium. Presented at both Replaying Japan 2014 and 2015, this prototype game software is partially based on the teaching curriculum currently in use by the Japanese language program at the University of Calgary.

In collaboration with both Martin Roth and Svenja Schmitt from the University of Leipzig, the study was expanded and the team conducted 2 additional separate rounds of testing with students from both Calgary and Leipzig. This yielded an additional 48 participants whom all provided very valuable feedback pertaining to the motivational effectiveness of the software. The results also provided some additional research directions which can be explored such as game quality impact on learning and quality expectations of a game versus a regular standard software application.

The data gathered from this expanded research round will then be combined with previously gathered data. The team believes that this data is useful in understanding the mindset of educational game players and that the combined results offer some interesting and un-intended insights that would be useful in the professional game design and development environment. The feedback from participants also offer an analytical opportunity in exploring what aspects of a game, be it education or entertainment, are important in securing the attention and motivation of players of various backgrounds.
Game Applications of Dynamic and Spatial Connections between Multiple Mobile Devices

マルチモバイルデバイスによる動的かつ立体的な連携のゲームへの応用

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Takehiro Teraoka 寺岡丈博, Tokyo University of Technology

In this study, we enhanced a novel system “VISTouch” that achieves new operational capability, and applied it to game applications. It enables multiple mobile devices to be used in combination dynamically and spatially and helps users handle intuitively in 3D virtual space.

Our VISTouch requires a multi-touch function that recognizes more than three points, an internal acceleration sensor, and the wireless LAN function. The only tool required to use the system is a VISTouch case that has three or four conductive protuberances on each side. Every distance between the protuberances are different, so the system can identify which side of the case is touching on the display. By moving or inclining a smart phone in the case on a tablet display, VISTouch offers a novel way to interact with multiple devices. For example, when a smart phone is spatially connected to a horizontally positioned tablet that is displaying a map as viewed from above, these devices dynamically obtain the correct relative position by using VISTouch. The smart phone displays images viewed from its position, direction, and angle in real time as a window that shows virtual 3D space. In addition to the old way of recognizing directions, which depends on virtual 3D images, we employ real space information to improve a user's spatial perception by combining real space and virtual space. In fact, we applied it to visualization of 3D models, map information, and medical data (e.g., CT 3DCG を初めとして様々な立体情報がゲーム等の分野で使用されているが、映像提示手段はコンピュータの黎明期と変わらず平面的なディスプレイで、操作にはマウスやキーボードが用いられている。そのため直感的にその操作を理解し、情報を認識するのは困難である。提示される映像がどのようなものであるか、ディスプレイと人の位置関係は固定化されてしまう。近年の携帯端末のように手軽に持ち運べるデバイスが登場しても、人、情報とディスプレイの関係性は変わることがない。

我々は直感的な操作と情報の理解のために携帯端末を組み合わせ、その相対的な位置関係を元に提示する情報を変化させるVISTouchシステムを開発した。現実空間における複数の携帯端末のもつディスプレイの位置を自動で認識し、それに応じた情報を動的に生成。つまり本来平面のディスプレイを3次元的に組み合わせ、3次元情報をそれに応じて表示する。例えばタブレット端末を水平に置き3次元情報を上から見た地図のような映像を提示する。そこにスマートフォンを置くと、接触したその位置、その方向、その角度の映像を表示し、あたかもそこにある立体が存在し、それをスマートフォンという窓から見たかのように表現するのである。これを用いることで、CTやMRIなどによる立体の直感的な視覚化、地図情報の立体的な視覚化などが可能となる。

本システムは複数の導電体突起物を有したケースを携帯端末に装着するだけで実現可能であり、特
and MRI).

VISTouch also changes the way of playing games with mobile devices to a novel style. The system can recognize the relative position between multiple devices, so it can be applied to high quality action games as if each smartphone was one of characters. Moreover, by combining VISTouch with the positional tracking for VR, we can use mobile devices as new VR game devices and virtual cameras. Therefore, our VISTouch can enable mobile devices to be used as displays of virtual 3D and novel devices for VR game.
Session 4A – Opinions and Discourses

Chair: Fabian Schäfer, Friedrich-Alexander-University Erlangen-Nürnberg
Opinions and Opinion Leaders in the Japanese Discourse on the Effects of Video Games

Florian M. Kaiser, Goethe-University Frankfurt

Since the emergence of Video Games in Japanese homes, marked by the publication ofNintendo’s Famicom in 1983, there have been different phases of public debate in Japan on the Effects of Video Games: From delight over more and more children visiting each other’s homes to play Games and talk about elaborate Games tactics, over curiosity about phenomena like children leaving school immediately after class to continue playing as soon as possible (express returns from school, 特急下校), up to the fear of increasing cases of epilepsy, eye and posture problems, or juvenile delinquencies ranging from theft of Game Software to murder.

The most multifaceted and influential phase of this debate occurred between 1996 and 2007, when scientists from different academic fields joined the public discourse by publishing guidebooks and academic papers on the Effects of Video Games. In 1996 Kayama Rika (加山リカ), now a well-known psychiatrist, consultant and person of media, shares her personal bond to Video Games and her experience in the application of Video Games in her therapeutic practice, claiming a possible healing Effect of Video Games (ゲームと癒し, 1996). In contrast, in the early 2000s physiologist Mori Akio (森昭雄) argued with screenings of certain patterns in brain waves during play that regular Players suffer from a dementia-like state of brain activity, which leads to loss of human character traits, coining the term Game Brain, ゲーム脳 (ゲーム脳の恐怖, 2002). Academically more elaborate by taking in account international research on the Effects of Media, Psychiatrist Okada Takashi (岡田尊司) points out dependencies between the advancement of Media, especially Video Games and pathological and criminal tendencies in the past (脳内汚染, 2004). Initially treading the same trail as Mori, well-known Neurologist Kawashima Ryûta (川島隆太) backed up his apprehension on social decay with his own research, before Nintendo published his brain training series, known as Kawashima’s 脳トレ (Brain Training) in 2005. Social Psychologist Sakamoto Akira (坂元章) follows approaches most similar to western Research on Effects of Media Consumption, studying influence variables of Play for violent behavior and aggression with younger players, resulting in cautious ideas of cause and effect (テレビゲームと子どものここころ, 2004). Finally, a focus on Utilization of Video Games in Learning Concepts comes from Instructional Designer Fujimoto Tôru (藤本徹), who introduced Serious Games to the public debate in Japan (シリアス・ゲーム教育・社会に役立つデジタルゲーム, 2007).

In my analysis, I compare and discuss the different approaches on the topic and assign specific roles and fractions in the discourse. In my contribution to Replaying Japan 2016 I would like to give an overview on the Japanese Discourse on the Effects of Video Games, starting with a historical breakdown of the early eighties, a detailed view on the decade plus one between 1996 and 2007 and a possible trend for the future development of the public discourse.
Regional Game Studies—with a Chinese Example

Bjarke Liboriussen, University of Nottingham Ningbo China

The interdisciplinary academic field of game studies has entered a new phase of growth and change. New kinds of institutions, events and publications are proliferating. In 2015, a chapter for Europe’s German-speaking Countries was added to the list of Digital Games Research Association (DiGRA) subdivisions—a list that includes Japanese DiGRA. Donovan’s (2010) popular and comprehensive monograph on video game history was written with the explicit intention of balancing a tendency to write “US rather than global histories” (p. xiii). The same attention to alternative histories (plural) permeates both the annual Conference on the History of Games, first held in 2013, and edited collections such as Gaming Cultures and Place in Asia-Pacific (Hjorth & Chan, 2009) Gaming Globally (Huntemann & Aslinger, 2013) and Videogames Around the World (Wolf, 2015). Special issues of Games and Culture (Hjorth, 2008, Liboriussen & Martin, 2016), the Journal of Virtual Worlds Research (Lim, 2012) and the Journal of Gaming & Virtual Worlds (Chakraborti, Opoku-Agyemang, & Roy, 2015) explore game-making, games and gaming in non-western settings.

This ongoing phase of growth and change not only introduces new perspectives and voices into game studies, it also holds the potential to increase the field’s political relevance by advancing a form of game scholarship more attuned to the challenges of globalization, internationalisation and postcolonialism, a trend Paul Martin and I have labelled “regional game studies” (Liboriussen & Martin, Forthcoming). This presentation outlines the notion of regional game studies with special attention to its relevance for the Japanese case.

The presentation’s core example is, however, taken from the Chinese context. The professional practice of “gold farming” has long been linked to China, both on grounds of the sheer size of the industry in that country (Heeks, 2008, p. 12), western news media’s particular way of covering stories about Chinese gold farming (Nardi & Kow, 2010, Wirman, 2016) and the disturbing links between western discourses around Chinese gold farmers and anti-immigration discourses (Yee, 2006). I have recently added to this scholarship by interviewing Chinese online gamers who engage in amateur gold farming. I subsequently employed the Chinese notion of shanzhai in my interrogation of the interview material (Liboriussen, 2016). This is a strong example of regional game studies as it not only pays attention to a particular, “local” gaming practice but also seeks out an “indigenous” concept, shanzhai, a concept that is in fact regional rather than local as it captures something between the local and the global, namely, China’s complex and sometimes tense relationship with the rest of the globalising world.

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Exploratory Studies on the Sentiment of the Globalization in Game Studios: Comparative Studies on Indies Studios from Singapore, Japan, North America and Europe

Akinori Nakamura, Ritsumeikan University

With globalization, the contents developers has been exposed to more chances than ever before, in terms of taking their software to international market. With the arrivail of iTune Store and Google Play, any individuals or teams developing entertainment software can easily access to various countries after getting approval from platform providers. Previous studies had already introduced the situations that various indies are accessing global market. Even Doujin-previously known to circulates their products only among friends or someone in Japan, the team were now incline to access global market (Hichibe and Tanaka 2015)

The present studies attempt to investigate current situations of Indie studios, in terms of their sentiment toward global market as well as globalization. In order to carry out this research, semi-structured interviews were conducted to teams in Japan, the U.S.A, Canada and Europe. Secondary source such as Indie developers interviews from videogame media are used to supplement the ideas presented by the interview results.

The results seemed to indicate while a majority of Indies expressed their interests in taking their products overseas, only those who had previous experience in videogame industries, particularly those who were involved in titles which sold globally, had taking specific measure to ensure such visions to be accomplished. Their interests for actual steps to take the game to global market varied depending on how much they are willing to put their time on game development as some of them are developing game in spare time while working full time in other industries. Simultaneously, a genre the teams are involved also influenced how they can take these products in various countries. Those working on intuitive games shared their interests in taking them globally most as they considered that such a title can be easily understood regardless of differences in nationality. Other factors which seem to raise the interests of international market is the living environment of developers as well as experience from the past products.

Various limitations applies, however, to the presented findings. First, since this studies are exploratory basis, any findings presented are in no way to generalized. For anything which are indicated in this research, further examinations are required to claim any generalization of the findings. Second since samples are limited from any regions, the findings cannot be used to specific traits of any of countries or regions. In order to clearly claims countries or regional differences among indies studios, further investigations are also required.

The findings, however seem to indicate that there seem to be games which require less localization which give indie studios significant advantage over competitors with the game titles which need complete localization. In and what conditions, the games can be penetrable to other market need further investigations. Despite this, it seems that game apps seem to be more penetrable to multiple markets compared to other type of apps. This potential needs to be further investigated. Finally, for governmental organizations or venture capitalists, the further investigations may give more clue to the most optimal ways to assist indie studios in order to effectively make the game attractive to multiple regions, expanding the customer base.

Keywords: Indie Studios, Globalization, Videogame Industry, Start-Ups

Session 4B – History/Preservation

Chair: Martin Picard, Leipzig University
A study of the “oral history” collection and publication of an old arcade game
Yoshihiro Kishimoto, Tokyo University of Technology

The development of computer games in Japan began with the making of arcade games in the 1970s, and improved with innovative progress, spread of technology, and it became a big industry in Japan. They were considered youth culture in the beginning, but they were later accepted by a wide age group of people. Computer games became known to be a big part of the Japanese culture along with „comics” and „anime”. The Japanese people wanted to keep computer games as a „cultural heritage” in the history.

The computer game preservation activity that universities and public institutions went for is the same as the preservation of books and magazines until today. However, we think that „the development course” should be preserved in the same way as the published work.

In the Digital Game Research Association Japan, we have begun to work on „oral history” collection and the publication of old arcade games from 2009. We interviewed people concerned with the development and recorded the course of development as a „testimony”, for the purpose of contributing to the game study for the future.

Until now we have intended the study for global hit games such as „Space Invader” and „Pac Man”. However, we recognize the value of the course of development of new games and games with few sales as well. Therefore it is the purpose of this study is to give people concerned with development a chance to give their testimony.

As a first study, we did an oral history collection and publication for the procedures of the development of „Baraduke” (NAMCO, 1985) in which I was engaged as a programmer.

- The developers can remember and share their memories of the course of development using a closed Social Network Service (SNS).
- An outside person such as a game writer, that knows a lot about a specific game, ask developers questions and then record these questions and answers on SNS.
- Developers are filmed as they carry out a testimony of events and is recorded.
- We publish the movie to the public on the Internet and reply to the questions from audience using SNS.
- We publish the „testimony” of event contents and closed SNS in article form in an official journal of a scientific society.

We are currently on step (5), but we present the procedure that we practiced and the result and problems of the study so that other developers can use it in the same way in the future.
Proposal and Validation of the Data Model of Video Game Database

In recent years, research interest on the game as intellectual resources show an increasing trend. Accordingly, Discussion of the game preservation has been activated (Winget & Murray 2008, Lowood et al. 2009, Newman 2012). On the other hand, it can be said that the construction of game archives is lagging behind. A major reason for this is that we lack feasible database models capable of catering to the needs of local game cultures and contents, and their global distribution. In order to create the basis of content analysis and comparative game studies, we need to develop a standard data model for videogame databases.

Given such a situation, we are constructing “media-arts database” from 2012 (https://mediaarts-db.jp/). This contain almost of console and arcade games titles. We input this database with carefully confirmation. This database has been published in March 2015 as a development version. However, this is a one table structure at present. This is not enough to represent the environment and changes of the games. Construction of a practical database that has a standard data model is required.

In this study, we will sum up the current approaches and issues related to such database model, and propose a way forward in this endeavor. Previous researches has discussed the applicability of videogames to FRBR or OAIS model (McDonough 2010, 2011, 2012). FRBR is a standard "entity-relationship model as a generalized view of the bibliographic universe" (Tillett 2004, p. 2). But some researchers said that existing conceptual models are not adequate to represent the unique descriptive attributes, variance, and relationships of video games. Other research proposes a meta data set consisting of 16 items on the evaluation of the Stakes holder (Lee et al. 2013) or conceptual model for video game and interactive media (Jett et al. 2016). In order to come up with a feasible model, we will review the existing approaches according to the following criteria:

Applicability to games and challenges of the proposed data model
Definition of metadata and standardization from the perspective of “Linked Data”
Relationalization of the database by means of an authority file

Based on this analysis, we will propose a data model (Figure 1), building on the meta-data set of the media-arts database. Furthermore, we will review the problems...
involved in the international use of this model based on our own experimental input.

References


The Japanese origins of indie games: Cave Story and La-Mulana

Maria B. Garda, Paweł Grabarczyk, University of Łódź

Indie games are a global phenomenon that is predominantly identified with the contemporary US independent scene. However, the origins of indie games can be traced in numerous local game histories. The often overlooked, yet crucial to its core characteristics - as we will later try to prove, are the Japanese origins of the indie game movement. We will present two case studies - Cave Story (Studio Pixel, 2004) and La-Mulana (GR3 Project, 2005). Building on the disjunctive definition of independent games (XXXX), we will investigate the complicated local and temporal determinants of the Japanese indie game scene and its Western reception as it coexists with another independent games tradition: dōjin games (Hichibe & Tanaka, 2015).

As we argue elsewhere, the term “independent game” can be explained as a disjunction of three types of independence which although related are autonomous. These are: a) financial (constituted by developer – investor relation), b) creative (constituted by developer – intended audience relation) and c) publishing (constituted by developer – publisher relation) independence. The disjunction of a), b) and c) constitutes the atemporal meaning of independence in video games. However, in a given time-period each type of independence becomes highly correlated with a set of contingent properties, such as: digital distribution, retro style or the use of specific middleware. This combination constitutes the temporal meaning of independence in video games that is often used to identify them. The term “indie games” is a good example of this process as it refers to a set of contingent properties that became apparent in the mid-2000’s. The aesthetic aspect of that transition was investigated by Jesper Juul (2014).

Cave Story and La-Mulana are not only the early examples of indie games but also the source of significant influence for the whole international movement. Interestingly, the origin of their innovation lays in their retro reflectivity (Camper, 2008) or retrovation (Suominen & Sivula, 2012). Cave Story was intentionally created to remind the player of the classic platform-adventure games (similar to the Metroid series). But the choice of the genre isn’t the only aspect of the game that displays retro sensitivity of the author. It is also true about the aesthetics of the game - pixel art graphics and chiptune music. What’s interesting the game does not stop at copying it’s inspirations - it refines them with modern sensitivity which makes it similar to the later neo-retro style in games design (XXXX). La-

References
Short Paper Session SPA
Chair: Mitsuyuki Inaba, Ritsumeikan University
The Pit of Panga: Super Mario Maker and Kaizo game design

James Newman, Bath Spa University

Released in September 2015, *Super Mario Maker* (SMM) is an extension of Nintendo’s 2D ‘Super Mario’ series offering the ability to create, share and play new stages using a gamified suite of level design tools. The game’s tagline: ‘Anyone Can Make It. Everyone Can Play It.’ couldn’t be more inclusive and pushes the company’s audience-broadening initiatives (Jones and Thiruvathukal 2012; Juul 2009) beyond gameplay into gamemaking. The careful metering of design tools which are revealed in drip-feed fashion so as not to overwhelm the would-be designer speaks of SMM’s sensitivity to player experience. Similarly, the requirement that levels be completed by their creators before they can be uploaded seeks to keep the catalogue free from impossible designs. As such, ‘player-advocacy’ (Fullerton 2008) is as infused in the design of SMM as it is in the meticulously-crafted designs of *Super Mario Bros.* (Emmons 2014; McMillen and Refenes 2012) that SMM references, celebrates and reveres.

Yet, within a week of the game’s release, creators such as ‘Panga’ began uploading levels of such complexity that they are almost unrecognisable as Super Mario stages. The ‘Pit of Panga’ levels require an utterly comprehensive mastery of skills and performance techniques as well as an intimate knowledge of the distinctive behaviours evident in SMM’s game engine – including its many quirks and glitches. Such is their difficulty, most of the levels have been cleared only a handful of times. As of January 2016, Panga’s infamous ‘P-Break’ has been attempted 3,698,714 times with just 444 completions. Streaming the experience on Twitch, Panga himself took nine hours to complete the level before it could be uploaded.

Crucially, there is more to these levels than extreme difficulty alone. Taking their inspiration from the amateur practice of ROM Hacking and bearing the generic name of ‘Kaizo’ designs in reference to ‘Kaizo Mario World’, one of the most famous ROM Hacks, these levels are self-consciously and artfully unfair. Their designers place hidden blocks at the apex of jumps with no purpose other than to knock players into the bottomless abyss. They fashion elaborate setpiece traps from which there is no escape if triggered. They demand that players use counterintuitive techniques such as losing powerups and even unthinkably selfish tactics such as deliberately sacrificing Yoshi in order to traverse their spaces and puzzles. As such, these levels appear to stand in stark opposition to the design principles espoused by Nintendo (and typically coded as illegal acts of software piracy).

That players define extreme forms of superplay and counterplay should not surprise us (Newman 2008). That Nintendo explicitly references Kaizo designs in SMM’s promotional and prefigurative materials is not only surprising but seemingly self-destructive. Using case studies including the ‘Kaizo Mario Maker’ sessions at the 2016 ‘Awesome Games Done Quick’ event, this paper draws on Wilson and Sicart’s (2010) work on ‘abusive game design’ to explore the operation of SMM as a ‘dialogical’ platform that supports and encourages ‘unfair’ Kaizo designs without compromising Nintendo’s authorial principles or the sanctity of the Mario canon.

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Mainstreaming Kaizo
Nathan Altice, Independent scholar

Nintendo's September 2015 release of Super Mario Maker marked a convergence point for multiple strands of Eastern, Western, mainstream, niche, commercial, and clandestine gaming culture. Designed for playing, creating, and sharing custom Mario levels, Super Mario Maker exposed thousands of new players to the concept of kaizo, or rearranged, levels, a design and play practice originally developed among the ROM-hacking community.

Kaizo levels are notorious for their extreme and often comical difficulty, designed to frustrate, confound, and surprise their players. The original Kaizo Mario World hack, released in 2007, used the established visual and mechanical grammar of the Super Mario Bros. franchise to subvert player expectations at every turn. Hidden blocks stymied straightforward jumps. Objects were used in unconventional ways. Progress required deft fingers and careful memorization.

A community developed around rearranged ROM hacks, seeping first into other Super Mario Bros. titles and then into other platformers and eventually into new games. As kaizo made its way to English players, it began to mean more than a rearrangement—it meant extreme, even assholish, difficulty. But even as they gained popularity, these levels remained the purview of niche audiences who craved sadistic tests of skill and patience.

Super Mario Maker mainstreamed kaizo, but did so with the help of an unexpected partner: online streaming. Though Nintendo has had an uneasy (and often antagonistic) relationship with services like Twitch and YouTube, Super Mario Maker's players have taken to the game's 'open' design structure, conscripting it into service as an endless kaizo machine. And once again, kaizo's meaning undergoes new translations, giving rise to new forms of player expression.
Short Paper Session SPB
Chair: Jérémie Pelletier-Gagnon, University of Alberta
**Free Love: Japanese Women’s Games, Fan Translations, Gendered Otaku and Game Cultures and the Politics of Game Localization**

Sarah Christina Ganzon, Concordia University

Otomes or women’s games is a category of games originated in Japan that are marketed specifically to women. While it has niche status in its country of origin, only a few titles have been adapted for Western audiences.

This paper will define the largely unexplored category, tracing its emergence within Japanese consumer cultures, and its migration to North America. In doing so, I place this in the context of the gender politics between both Japanese otaku cultures and the Western game industry, and examine how these affect how these games are localized. I will also describe the practices of fan translators, and look at the ways in which piracy has been complicit in developing the otome market in North America. By attempting to explore the flow of these games between consumer cultures, I aim to look at the ways in which piracy can be complicit in forming cosmopolitan identities, in shaping the discourse of gender in games, and in potentially new forms of immaterial labor that captures fan labor.
“Character AI” program practice example in the beginner-friendly game production education

初学者向けゲーム制作教育におけるキャラクタAIプログラム実習例

Seiki Okude 奥出成希, Ritsumeikan University

Outline
In the programming practice course for the students who want to be a game programmer, they are made to create a program of AI enemy character as part of an assignment with the subject of gaming.

I am reporting on the learning material created for the practice of controller syntax in programming language and the result of it.

Background
In modern society, information is highly digitized and computer skills such as programming are becoming more important than ever. As a result we have set our foot in the era where programming is learned as a subject of education.

Digital games we are dealing with are a type of computer applications which is operated by programs.

Challenges
While programming is vital to control computers, a highly technical education is required to acquire programming skills.

It involves some works that seem to be difficult to get started with or “inaccessible” such as algorithm building, data design, etc.

I could say from my experiences that in many cases setback as a beginner creates negative feelings resulting in giving up the learning all over.

Solution Approach
“Examples” are frequently used as a method to lower the hurdle while maintaining the quality of learning. Therefore examples are set in relation to the game in the practice course.

Practice
In the practice course the situation is set up, where the students are programming an enemy’s behavior from the standpoint of battling with the game player.

When programming the enemy’s behavior, plans are made being conscious of how to corner the player. The basic syntaxes such as variables, operators, and control statements are learned to enable the plan.

Results
The respondents of the survey carried out after the

概要
ゲームプログラマを目指している学生を対象としたプログラミング実習において、ゲームをテーマにした課題として、敵キャラクタAIのプログラム作成をおこなった。

プログラミング言語の制御構文の練習用に、テーマ付けした教材の作成とその効果を報告する。

背景
現代の社会は高度にデジタル情報化され、コンピュータ技術やプログラミング能力の重要性はますます大きくなり、教養としてプログラミングを学ぶような時代になろうとしている。

我々が扱うデジタルゲームも、コンピュータアプリケーションの一種であり、プログラムによって動作している。

問題
コンピュータの制御にプログラミングは欠かせないが、プログラミング技術習得には高度な専門教育が必要になる。

そこには、論理的な思考でのアルゴリズム構築やデータの設計など、「とっつきの悪さ」が存在している。

著者の経験では、初学者のうちに挫折してしまうと、苦手意識を持ち習得をあきらめてしまうケースも少なくないと感じた。

解決アプローチ
学びの品質を保ちながらハードルを下げるための一つの方法として「例え」を用いることが多い。そこで、ゲームにまつわる例えを設定して実習を行った。

実践
実習では、ゲームのプレイヤーに対峙する立場として敵の行動をプログラムする、といった状況設定を用意する。

敵の行動をプログラムしてプレイヤーをいかに追い詰めるかを意識しながら計画を立て、それを実現するために変数や演算子、制御文などの基本的な構文を学ぶ。

結果
受講後のアンケートを実施した。プログラミング学習期間の長さにかかわらず「理解が深まった」
course said they could get "better understanding" regardless of the learning period of programming. Also many of them said they have enjoyed the learning. Although the continuous survey is required due to the insufficient number of the responses, I believe there is a certain effect in this method.

**Issues and Perspectives**

Although "examples" help us better understand programming, they may impede the process of abstraction for those who cannot separate from these examples.

Also as this method is the one a professional game programmer would never use, the participants are required to learn the practical development method on another occasion.

However lowering the hurdle of acquisition of programming skills and expand the developer base would result in the increasing number of the person who can control computer. I am sure that it will contribute to the development of technology. I wish to pursue this study to verify the effect of this effort.
女性向けゲーム市場における消費者行動

Jin Nakamura, Japan University of Economics

本研究は、研究の対象となることの多い男性を主なユーザとして想定したゲーム（以下：男性向けゲーム）市場ではなく、近年注目を集めることの多い女性を主なユーザとして想定したゲーム（以下：女性向けゲーム）市場を対象とし、その実態を明らかにするとともにコンテンツを供給する企業と消費者の間にどのような相互作用があり、共進化が発生しているのかを解明することを目的とする。アーケードゲーム、家庭用ゲーム機やパーソナルコンピュータによるゲームなど、歴史的に多くのゲームの主なユーザが男性が想定されてきた。それは場において顕著に現れ、例えばゲームセンターは気軽に入ることのできる遊戯施設ではなかった。また、パソコンがビジネスで普及し、その多くも男性であったことなどが挙げられる。しかし現在多くの女性がゲームプレイヤーとしてゲームを楽しむとともに、開発者や経営者などコンテンツを供給する側に立つなど普及が進んでいる。本研究ではこれらを踏まえ、特に女性向けゲームに焦点を当てた。本研究の対象となる女性向けゲームは、個々の作品に関する評論等は米国ポップカルチャー学会等でも多く研究されているものの、消費者行動や企業と消費者の相互作用についてはこれまでほとんど研究されてこなかったといって良い。一方で、男性向けゲームや性別を問わないゲームについてはこれまで多くの研究の蓄積がある。そのため、女性向けゲームについても社会科学の視点からの研究のニーズはあるが、まだフロンティアの段階である。また、女性向けゲームの多くが日本で開発されており、日本を研究の拠点として研究すべき分野であるにもかかわらず、これらがなされていない。海外の研究者は積極的に研究しているといえるが、一方で市場全体に目を向けた研究ではなくなっている。市場全体、ないし企業と消費者の相互作用に着目した研究を推進することで、これらの研究に横串を刺し、「ゲームの面白さ、楽しさ」を明らかにすることが求められる。本研究の独創性は、これまで研究されたことの少なかった、女性向けゲームおよび関連市場を研究対象としたことである。性別を問わないゲームならびに男性向けゲームと違い、一般的に小規模な開発環境と販売が続く、メディア展開も専門誌に限られ、消費者の動向も明らかとなっていない。これらを明らかにすることで、女性向けゲームを研究対象とするための基礎的な情報を整備する。
Awakening of the game elements that lurk in the story
物語に潜むゲーム的要素の覚醒
Shosaku Takeda, Ritsumeikan University

Recently, in game study, the results of research from various academic domains are reported by a variety of academic areas including the humanities and engineering. However, discussion of learning method in the know-how of the game production is less, especially learning model for the story and scenario work is in the situation that has not been discussed almost. In view of this situation, through the process of finding a game element to the „story“ of the real world, the present study is aimed for an object of the proposal for „learning model of game design“ to support the point of view and awareness-building for the difficulty settings.

In this study, first, to produce a so-called „picture-story show“, to confirm the linear structure of the story. Features of the picture-story show is the place to be configured by words and pictures the story. Rather than painting and the text is visible at the same time like a picture book, by listening to talking while looking at the picture, the more specific story image is coming into the listener naturally. This is similar to watching a movie, the big difference is the video and still images, in other words the story is or expand while motion picture, which is one of the differences make up the story.

And secondly, by embedding a gimmick or a branched structure in picture-story shows, it is remodeled to adventure games. Although adventure game will then expand the story using intervention interactors in one screen, the way of this intervention is the construction of a game property and it is believed to lead to setting of the difficulty level.

So if you think to deploy a linear and the analog story in called picture-story show to the interactive world of adventure game by digitizing, it is possible to capture the that problem of reorganizing the story to game relatively easy. That is a technique to decompose the story on the basis of the concept of the scene and to rebuild while adding a degree of difficulty elements. Through „Degradation“ and „production“ of these picture-story show, and the „grant of game“ , the learner is considered to be possible to obtain some kind of „awakening“ for the game elements that lurk in the story. This can be said to lead to the acquisition of basic ability in the game scenario production.

Note that the verification of the usefulness of the learning models is performed around the knowledge derived through a kind of action research.
specifically, to practice the present model in the offered lecture "interactive video production training I" in the College of Image arts and Sciences Ritsumeikan University, it is the stage that repeated studies to heuristic. On the announcement day, we want to also report the situation.
Session 5A - Japan-West/Intercultural

Chair: Benjamin Bigl, Leipzig University
The Aesthetics of Bad Translation: The Codification of a “Japanese Gamic Experience” by way of the language barrier

Tomás Grau de Pablos, Autonomous University of Barcelona

The story of the interaction between the Japanese videogame industry and its Western audiences is riddled with anecdotes, events and small stories that communities share between themselves to form a general agreement on the experience of engaging with Japanese games. These stories are derided by a huge number of factors, and once some of them become popular enough, they can be as major components through which the perception and categorization of Japanese videogames is developed in the Western market. As expected, most of these perceptions come from several elements that are felt as “different” or “unique” to the sphere of Japanese gaming, usually by identifying some quirks or traits that are seen as more prevalent in that area than any other. Some of them point out to firmly established differences in market tastes or design sensibilities that have developed over the years. However, there are several subtler elements that, despite their apparent innocuousness, can also be highly influential in this process simply by way of their seeming ubiquity.

One of the most common examples that consumers recognize in Japanese videogames (especially earlier ones) is the persistence of translation problems in both text and audio. Due to a constrained budget or just a general lack of professionalism in some cases, many popular Japanese games are renowned by their sometimes stunning lack of talent in the translation department. This has meant that, for many years, videogames made in Japan were expected to display a below-average competence in areas of game design like dialog or audio dubbing. Far from only affecting lesser known titles, this situation was quite pervasive for a large amount of time, and in one way or another, it came to be treated as another feature that had to be expected when playing a game from that sector. However, instead of becoming a burden to their success, sometimes this poor management has become an asset for a certain number of consumers who have eventually found it charming an endearing. As such, poor translations have managed to mix together with other ludic and visual conditions of a videogame and become constitutive elements of the identity of some of the most popular franchises of the medium. Throughout this paper, I will offer several examples of how this particular idiosyncrasy has become a distinctive component to configure the Otherness of several recognizable games, particularly, those pertaining to the survival horror saga Resident Evil and the long standing JRPG franchise Final Fantasy.

References:
1. Summary

When we think “Japanese video game”, What kind of video game do we pick up?
Today Japanese video game context and English video game context, each context have a bias. For example, most of the Japanese video game players don’t know “Zaxxon” (1982), and most of the non-Japanese video game player don’t know “moon” (1997). Both video games are regarded as very important video game title in each history. I wonder how bias, we have? In order to approach this bias problem, I did research following

• Picking up famous video game titles in the Japanese context
• Picking up famous video game titles in the English context
• Picking up famous both context

I listed up these titles and analyzed. These data would be able to contribute to thinking the characteristics between local video game cultures.

2. Method

I picked up video game titles from video game books, awards, exhibitions about video games, and sales data. If the same video game title was found from several resources, the video game title gets a high score (pointing method detail is described table.1). Some video game gets points from only Japanese resources, the others get points from only English resources. Then I made lists(table.2). Checking game titles, I treated same video game title is one work though the game title has several versions. For example, In Japan Gameboy version Tetris got big sales, but PC version Tetris is seldom mentioned. In some aspects, Tetris version problem is important, but this research purpose is not analyzing version problems. This research is trying to know video game popularity, so “Tetris” is one work in this research.

And these lists don’t pick up a week’s bias. For example, the GTA series is very popular in English contexts, the other hand GTA series is the only famous among Japanese gamers, it couldn’t get high popularity in Japan. Of course, these cases are interesting, but these cases are difficult to describe the gradation detail.

Distinctive difference game titles between Japanese context and English context

Akito Inoue, Kazufumi Fukuda, Ritsumeikan University

1. 概要

「日本のゲーム」といった時に、具体的にどのようなゲームタイトルが問題の辺上にあがるのだろうか。現在、日本のゲーム史からすれば極めて重要な作品や、あるいは英語圏のゲーム史からすれば重要な作品が、お互いの認識から抜け落ちていることが頻繁にみられる。たとえば、『Zaxxon』(1982)と、『moon』(1997)の両方が知っているゲーム研究者は多くない。だが、両作品はそれぞれの言語圏では、重要なタイトルとみなされている。

この問題を調査するため、様々なゲームタイトルのうち（1）日本語圏でのみ記述されるもの （2）英語圏でのみ記述されるもの （3）国際的に偏りなく重要とされるもの三種類のゲーム選び出してリスト化し、分析を加えた。これをもって地域的特殊性を議論するための基礎資料としたい。

2. 手法

まず、書籍、展覧会、アワードで選出されたゲームソフトをピックアップし、一度でも選出されればそれを選定候補として評価係数を加点した。（細かな加点方法は表1を参照）

この手法によって、日本語圏資料での評価係数のみが高いゲームタイトル、英語圏資料での評価係数のみが高いゲームタイトル、日本語圏と英語圏双方でバランスよく重要とされるゲームタイトルを選出した。

その上で、プラットフォーム間でのバージョン違いなどの事情により、日本で偏りの出ているようなものは対象から除外した。（たとえば、日本のみでGB版テトリスが取り上げられ、英語圏のみでPC版テトリスが取り上げられているが、これはタイトルレベルでは同一と捉えた）。また、同シリーズ内の別の作品や、リメイク作品等が知られている場合もこれを除外した。その上で選出されたものが表2である。

なお、このリストは「人気が高さにやや地域的傾向があるが、広く地域である程度知名度のある作品」は選定対象ではない。（たとえば『GTA』シリーズや『ドラゴンクエスト』シリーズ）
3. Conclusion

Table 2-Table 4 and Figure 1 indicates several local biases. Above all, it was to clarify the following, (1) Each of us have little information about 80’s famous titles in English contexts, and middle of the 90’s in Japanese contexts is little information. (2) A lot of ADV and RPG genre game is only famous in Japanese contexts (3) A lot of ACT and STG genre game in 1970’s-1980’s English contexts is not famous in Japan.

3. 結論

表2-表4および図1にあらわれているように、様々な傾向があることがわかった。特に（1）英語圏の80年前後、日本語圏の90年台中盤の状況について相互に情報流通が少ないこと。（2）テキスト量の多いADVやRPGについては日本でのみ知られているものが多いこと。（3）70年台〜80年台にかけての英語圏で流通したACTやSTGの重要作品が日本ではあまり知られていないこと、などが明らかとなった。

Table 1. Detail of Pointing method

<table>
<thead>
<tr>
<th>Type</th>
<th>point</th>
<th>Japanese resources</th>
<th>English Resources</th>
<th>International Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronology, History book, Game study</td>
<td>0.6</td>
<td>Chronology of “Nippon Manga<em>Anime</em>Game”, Chronology of Magazine Famitsu no.1300</td>
<td>“Supercade”, “High score”, “Rules of play”</td>
<td></td>
</tr>
<tr>
<td>Exhibitions in Museum</td>
<td>1.3</td>
<td>Playable Game Exhibition (2015), Exhibition of Nippon Manga<em>Anime</em>Game</td>
<td>The Strong museum hall of fame, MoMA, Smithsonian Museum (2012)</td>
<td></td>
</tr>
<tr>
<td>Awards / Hall of fame / Authoritative scores</td>
<td>0.45*1</td>
<td>BEST 10 titles in Magazine Famitsu yearbooks, Famitsu Hall of fame, CEDEC Awards, Japan Game Awards, Media Arts Festival Awards, Gamest Awards</td>
<td>Metacritiques Metascore, Game Developer Conference Awards, E3 Game Critique Awards, AIAS Awards, Game Canon</td>
<td>International Mobile Game Awards</td>
</tr>
<tr>
<td>Gamer’s pick up lists</td>
<td>0.3</td>
<td>Takarazima “80’s TV game we love”, “Coming back master pieces”, Eroge Scape*, PC game ranking book, Ritsumeikan professor’s pick up lists, “OLD GAMERS HISTORY”, “TV game study for adults.”</td>
<td>1001 Video games You Must Play Before You Die</td>
<td></td>
</tr>
<tr>
<td>Sales data</td>
<td>0.65 point per 1 million sales*4</td>
<td>Fami-tsu, Media-create</td>
<td>vgchartz.com</td>
<td>AppAnnie data</td>
</tr>
</tbody>
</table>

*1 Game of The year :1.35 point, Grand Prize : 0.9 point, nominee : 0.45 point
*2 Top score of the year in the Famitsu Hall of fame: 0.45 point, other Hall of fame title is 0.1 point
*3 over 1000 comments and over 85 median list up
*4 Sales data is power law distribution. So, I converted the data to square root.
表 1：加点方法の詳細

<table>
<thead>
<tr>
<th>リスト種別</th>
<th>加点数</th>
<th>日本語圏資料</th>
<th>英語圏資料</th>
<th>国際資料</th>
</tr>
</thead>
<tbody>
<tr>
<td>年表、歴史書、研究書籍への掲載</td>
<td>0.6</td>
<td>『ニッポンのマンガ＊アニメ＊ゲーム』年表、ファミ通1300号掲載 歴史年表</td>
<td>『Supercade』、「Highscore」、「Rules of play」</td>
<td></td>
</tr>
<tr>
<td>博物館、美術館への展示</td>
<td>1.3</td>
<td>あそぶ！ゲーム展(2015)、「ニッポンのマンガ＊アニメ＊ゲーム」展</td>
<td>The Strong museum hall of fame, MoMA, Smithsonian Museum(2012)</td>
<td></td>
</tr>
<tr>
<td>ゲーム関係の賞あるいは権威のあるスコアの授与</td>
<td>0.45×1</td>
<td>『ファミコン通信ゲーム年鑑』BEST10、「ファミコン通信」殿堂入りソフト※2、CEDEC Award、日本ゲーム大賞、メディア芸術祭、ゲームベスト Awards</td>
<td>Metacriticus metaScore, Game Developer Conference Awards, E3 Game Critique Awards, AIAS Awards, GameCanon</td>
<td></td>
</tr>
<tr>
<td>ゲームマニアによる選定リスト</td>
<td>0.3</td>
<td>別冊宝島『僕達の好きなTVゲーム 80年代』、『帰ってきた名作ゲーム』、Eroge Scape※3、パソコンゲームランキングブック、立命館映像学部教員ピックアップ、OLD GAMERS HISTORY、大人のためのTVゲーム学概論</td>
<td>1001 Video Games You Must Play Before You Die</td>
<td></td>
</tr>
<tr>
<td>売上げデータ</td>
<td>100万本につき0.65点×4</td>
<td>ファミコン通信、メディアアクリエイト資料</td>
<td>vgchartz.com</td>
<td></td>
</tr>
</tbody>
</table>

※1 Game of The year 1.35点、部門最優秀賞 0.9点、ファイナリスト 0.45点
※2 殿堂入りソフトに限り年間で高得点をとったものから順に0.45点〜0.1点の範囲で順位に応じて
順に0.45点〜0.1点の範囲で順位に応じて
※3 コメント数1000件以上かつ、中央値85点以上のもののみを、一点につき0.003点で加点
※4 売上は上位のものがべき分布で成績が上昇するため、一度平方根の数値を割り出して、それを加点している。

Table 2. Selected game titles(Coefficient Top 50)

<table>
<thead>
<tr>
<th>Context</th>
<th>Genre</th>
<th>Number of titles</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese context only game titles</td>
<td>RPG</td>
<td>12</td>
<td>Torneko no Daiboken: Fushigi no Dungeon, Ragnarok Online,Yokai watch, Shin Megami Tensei: Devil Summoner, Mystery Dungeon: Shiren the Wanderer, Romancing Saga 2, The Final Fantasy Legend, PoPoLoCrois Story, Romancing Saga, Yokai watch 2,moon, Bravely Default</td>
</tr>
<tr>
<td>ETC</td>
<td>10</td>
<td>Love Plus,idol m@ster,Ingress,denkimeter, Colony-na-Seikatsu,Gamma-no-yabo, Osawari-Tantei Namsaro Saibai Kit,Hatsune-Miku Project DIVA,Neko-atsume,Aquariums Holiday</td>
<td></td>
</tr>
<tr>
<td>ADV</td>
<td>9</td>
<td>Sakura Wars, Tsukihiime, Higurashi When They Cry, Sound Novel Evolution 2: Kamaitachi No Yoru, Sound Novel Evolution 3: Machi – Unmei no Kousaten, D, 428: Fusa Sareta Shibuya dc, The Portopia Serial Murder Case, Boku no Natsuyasumi</td>
<td></td>
</tr>
<tr>
<td>SLG</td>
<td>6</td>
<td>Tokimeki Memorial, Kantai Collection, Densha de Go!, Derby Stallion, Gunparade March, Gihren no Yabou</td>
<td></td>
</tr>
<tr>
<td>ACT</td>
<td>5</td>
<td>Hieiankyo Alien, Dynasty Warriors 3, MANEATER, Naruto: Ultimate Ninja Storm, Kidô Senshi Gundam: Senjô no Kizuna</td>
<td></td>
</tr>
<tr>
<td>SPO</td>
<td>4</td>
<td>Pro Yakyu Family Stadium, J-League Jikkyou Winning Eleven, Jikkyo Powerful Pro Yakyu,Tennis for two</td>
<td></td>
</tr>
<tr>
<td>PZL</td>
<td>2</td>
<td>Gee Bee, Pazudora Z</td>
<td></td>
</tr>
<tr>
<td>Fighting</td>
<td>1</td>
<td>Art of Fighting</td>
<td></td>
</tr>
<tr>
<td>RACE</td>
<td>1</td>
<td>SEGA RALLY CHAMPIONSHIP</td>
<td></td>
</tr>
</tbody>
</table>

76
### English context only game titles

<table>
<thead>
<tr>
<th>Context</th>
<th>Genre</th>
<th>Number of titles</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>13</td>
<td>Portal, Flower, Marble Madness, TRON: Maze-Atron, Jumpman, Tempest, Joust, Brutal Legend, Spy vs Spy, Earthworm Jim, Canabalt, Spy hunter, TANK</td>
<td></td>
</tr>
<tr>
<td>STG</td>
<td>12</td>
<td>Zaxxon, Star Trek: Strategic Operations Simulator, Defender, Centipede, Dead space, Geometry Wars: Retro Evolved 2, Einhändler, I Robot, Berzerk, Star Raiders, Attack of the Mutant Camels, 1943: The Battle of Midway,</td>
<td></td>
</tr>
<tr>
<td>SLG, RTS</td>
<td>8</td>
<td>flow, Pirates!, Worms Armageddon, Dwarf Fortress, Dune II: Battle for Arrakis, Utopia, Company of heroes, Lord of the Rings: Battle for Middle Earth II</td>
<td></td>
</tr>
<tr>
<td>ADV</td>
<td>5</td>
<td>Myst, The Secret of Monkey Island, Zork I, ADVENTURE, Grim Fandango</td>
<td></td>
</tr>
<tr>
<td>ETC</td>
<td>4</td>
<td>Vib-Ribbon, Passage, Majestic, TELSTAR</td>
<td></td>
</tr>
<tr>
<td>PZL</td>
<td>4</td>
<td>ChuChu Rocket!, Q*bert, Zack &amp; Wiki: Quest for Barbaros' Treasure, Boom Blox</td>
<td></td>
</tr>
<tr>
<td>RPG</td>
<td>3</td>
<td>EVE Online, Ever Quest, Never winter Nights</td>
<td></td>
</tr>
<tr>
<td>SPO</td>
<td>1</td>
<td>Sensible World of Soccer</td>
<td></td>
</tr>
</tbody>
</table>

### JP/EN Both context balanced game titles

<table>
<thead>
<tr>
<th>Context</th>
<th>Genre</th>
<th>Number of titles</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>20</td>
<td>Super Mario 64, Metal Gear solid, Super Mario Brothers 3, Pac-man, Donkey Kong, Shadow of the Colossus, Resident Evil, Okami, Metal Gear Solid 4, Guns of the Patriot, Sonic the Hedgehog, New Super Mario Brothers Wii, New Super Mario Brothers, Katamari Damacy, Super Mario Galaxy, Grand Theft Auto V, RED DEAD REDEMPTION, Shenmue, Crazy Climber, Journey, Super Smash Bros. for Wii U</td>
<td></td>
</tr>
<tr>
<td>RPG</td>
<td>9</td>
<td>Final Fantasy VII, Pockemon(Red,Green), Final Fantasy IX, Dragon Warriors(Dragon Quest), Final Fantasy VIII, Final Fantasy XII, Final Fantasy X, Kingdom Herts, Pockemon(Gold, Silver)</td>
<td></td>
</tr>
<tr>
<td>ETC</td>
<td>5</td>
<td>Nintendogs, Wii Fit, Brain Age, Mine Craft, Animal Crossing</td>
<td></td>
</tr>
<tr>
<td>RPG</td>
<td>4</td>
<td>Call of Duty 4: Modern Warfare</td>
<td></td>
</tr>
<tr>
<td>SPO</td>
<td>2</td>
<td>Wii Sports, Wii Sports Resort</td>
<td></td>
</tr>
<tr>
<td>STG</td>
<td>2</td>
<td>Space Invader, Galaxian</td>
<td></td>
</tr>
<tr>
<td>ADV</td>
<td>1</td>
<td>HEAVY RAIN</td>
<td></td>
</tr>
<tr>
<td>PZL</td>
<td>1</td>
<td>Breakout</td>
<td></td>
</tr>
<tr>
<td>RTS</td>
<td>1</td>
<td>Pikmin</td>
<td></td>
</tr>
</tbody>
</table>

### Japanese context only game titles

<table>
<thead>
<tr>
<th>Context</th>
<th>Genre</th>
<th>Number of titles</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPG</td>
<td>12</td>
<td>トルネコの大冒険 不思議のダンジョン, ラグナロクオンライン, 妖怪ウォッチ, 真・女神転生, 不思議のダンジョン 2 風来のシレン, ロマンシングサガ2, 魔界塔士Sa・Ga, ポポロクロイズ物語, ロマンシングサガ, 妖怪ウォッチ2 元祖/本家, moon, ブレイブルーデフォルトライングフェアリー</td>
<td></td>
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<td>ETC</td>
<td>10</td>
<td>ラブプラス, アイドルマスター, Ingress, #denkimeter, コロニーな生活, ぐんまのやぼう, おさわり探偵 なめこ栽培キット, 初音ミク Project DIVA, ねこあつめ, アクアノートの休日</td>
<td></td>
</tr>
<tr>
<td>ADV</td>
<td>9</td>
<td>サクラ大戦, 月姫, ひぐらしのなく頃に, かまいたちの夜, サウンドノベル 街, Dの食卓, 428〜封鎖された渋谷で〜, ポートピア連続殺人事件, ぼくのなつやすみ</td>
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<tr>
<td>SLG</td>
<td>6</td>
<td>Tokimeki Memorial, Kantai Collection, Densha de Go!, Derby Stallion, Gunparade March, Gihren no Yabou</td>
<td></td>
</tr>
<tr>
<td>ACT</td>
<td>5</td>
<td>平安京エイリアン, 真・三國無双3, マンイーター, NARUTO－ナルトナルティメットストーム, 機動戦士ガンダム 戦場の絆</td>
<td></td>
</tr>
<tr>
<td>SPO</td>
<td>4</td>
<td>プロ野球ファミリースタジアム, Jリーグ実況ウィニングイレブン, 実況パワフルプロ野球, テニス・フォーツー</td>
<td></td>
</tr>
<tr>
<td>PZL</td>
<td>2</td>
<td>ジービー, パズドラZ</td>
<td></td>
</tr>
<tr>
<td>Fighting</td>
<td>1</td>
<td>龍虎の拳</td>
<td></td>
</tr>
<tr>
<td>RACE</td>
<td>1</td>
<td>セガラリー・チャンピオンシップ</td>
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<td>English context only game titles</td>
<td>ACT</td>
<td>13</td>
<td>Portal, Flower, Marble Madness, TRON: Maze-Atron, Jumpman, テンペスト, Joust, Brutal Legend, Spy vs Spy, Earthworm Jim, Canabalt, スパイハンター, TANK</td>
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<tr>
<td>ADV</td>
<td>5</td>
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</tr>
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<td>ETC</td>
<td>4</td>
<td>ピルボン, Passage, Majestic, TELSTAR</td>
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<td>PZL</td>
<td>4</td>
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<td>RPG</td>
<td>3</td>
<td>EVE Online, EverQuest, Neverwinter Nights</td>
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<tr>
<td>SPO</td>
<td>1</td>
<td>Sensible World of Soccer</td>
<td></td>
</tr>
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<td>JP/EN Both context balanced game titles</td>
<td>ACT</td>
<td>20</td>
<td>スーパーマリオ64, メタルギアソリッド, スーパーマリオブラザーズ3, パックマン, ドンキーコング, ワンダと巨像, ピイオハザード, 大神, メタルギアソリッド4 ガンズ・オブ・ザ・パトロール, ソニック・ザ・ヘッジホッグ, NewスーパーマリオブラザーズWii, Newスーパーマリオブラザーズ, 塩鶏, スーパーマリオギャラクシー, グランド・セフト・オートV, レッド・リデンション, シェンムー---砂漠---, 拡張, クレイジークライマー, Journey (風ノ旅ピット), 大乱闘スマッシュブラザーズ for WiiU</td>
</tr>
<tr>
<td>RPG</td>
<td>9</td>
<td>ファイナルファンタジーVII, ボケットモンスター (赤・緑), ファイナルファンタジーIX, ドラゴンクエスト, ファイナルファンタジーVII, ファイナルファンタジーXII, ファイナルファンタジーX, キングダムハーツ, ボケットモンスター (金・銀)</td>
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</tr>
<tr>
<td>ETC</td>
<td>5</td>
<td>nintendogs (ニンテンドッグス), 柴 &amp; フレンズ &amp; ダックス &amp; フレンズ &amp; チワワ &amp; フレンズ, Wii Fit, 東北大学未来科学技術共同研究センター川島隆太教授監修, 脳を鍛える大人のDSトレーニング, マインクラフト, おいでよどうぶつの森</td>
<td></td>
</tr>
<tr>
<td>ACT</td>
<td>4</td>
<td>ゼルダの伝説, ゼルダの伝説: 時のオカリナ, ゼルダの伝説: 神々のトライフォース, ゼルダの伝説: ムジュラの仮面</td>
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<tr>
<td>RPG</td>
<td>2</td>
<td>Wiiスポーツ, Wii Sports Resort</td>
<td></td>
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<tr>
<td>STG</td>
<td>2</td>
<td>スペースインベーダー, ギャラクシアン</td>
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<tr>
<td>ADV</td>
<td>1</td>
<td>HEAVY RAIN (ヘビーレイン)−心の軋むとき−</td>
<td></td>
</tr>
<tr>
<td>PZL</td>
<td>1</td>
<td>ブレイクアウト</td>
<td></td>
</tr>
<tr>
<td>RTS</td>
<td>1</td>
<td>ピクミン</td>
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### Table 3. Influence to each area*5

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<tr>
<th></th>
<th>Awards</th>
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<th>History Book</th>
<th>Museum</th>
<th>Mania</th>
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<td>Whole - Influence to each area</td>
<td>26%</td>
<td>25%</td>
<td>18%</td>
<td>8%</td>
<td>23%</td>
<td>100%</td>
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<tr>
<td>JP Only title - Influence to each area</td>
<td>21%</td>
<td>0%</td>
<td>32%</td>
<td>30%</td>
<td>16%</td>
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<tr>
<td>Diff between JP Only and whole</td>
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<td>25%</td>
<td>-14%</td>
<td>-23%</td>
<td>6%</td>
<td>0%</td>
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<tr>
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<td>26%</td>
<td>16%</td>
<td>18%</td>
<td>12%</td>
<td>100%</td>
</tr>
<tr>
<td>Diff International Only and whole</td>
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<td>-2%</td>
<td>2%</td>
<td>-10%</td>
<td>11%</td>
<td>0%</td>
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<tr>
<td>EN only title - Influence to each area</td>
<td>9%</td>
<td>0%</td>
<td>20%</td>
<td>56%</td>
<td>14%</td>
<td>100%</td>
</tr>
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### Table 3 各リストに占めるパブリッシャーの偏り

<table>
<thead>
<tr>
<th>JP only Publisher</th>
<th>EN only Publisher</th>
<th>Both Publisher</th>
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<tbody>
<tr>
<td>Bandai Namco/Bandai Namco</td>
<td>Atari</td>
<td>Nintendo 22</td>
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<td>Chunsoft</td>
<td>Electronic Arts</td>
<td>SQUARE 5</td>
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<td>Konami</td>
<td>Midway Games</td>
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<td>Sega</td>
<td>SCE</td>
<td>Konami 3</td>
</tr>
<tr>
<td>Square / Enix</td>
<td>Others</td>
<td>Sega 3</td>
</tr>
<tr>
<td>SCE</td>
<td>Activision</td>
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<td>Ascii</td>
<td>Activision</td>
<td>2</td>
</tr>
<tr>
<td>Level 5</td>
<td>Namco</td>
<td>2</td>
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<tr>
<td>Others</td>
<td>Rockstar Games</td>
<td>2</td>
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</tbody>
</table>

*Selection by authority (Awards, History Book, Museum) VS Selection by a crowd of wisdom (Sales, Mania) is even.*

*Selection in contemporary (Awards, Sales) VS Selection in retrospective (History Book, Museum, Mania) is even.*
図1：地域別の特徴的タイトル時系列分布

Time line Data

- JP only
- EN only
- Both
Research on Serious-Game Design for Inter Cultural Understanding mediated by 3D Metaverse

Juhyung Shin, Yan Jiao, Yehang Jiang, Mitsuyuki Inaba, Ritsumeikan University

The aim of this research is to suggest a game of mediated virtual reality (here after Metaverse) for understanding of various intercultural contents.

Our research group uses Second Life which is the most commonly used Metaverse, to create virtual restaurants which embody the food culture of Japan, China and Korea (Fig. 1). In these virtual restaurants, players take quizzes related to the food culture of Japan, China and Korea and the table manners of each country (Fig. 2 and 3). Participants seek out the right answers through discussing with each other as a collaborative learning process. The participants of the experiment were 5 persons (including one researcher who is Japanese and four students from three different countries China, Korea and Malaysia, gender rate was four men and one woman).

There was one big screen which all participants were able to see and they controlled the avatar to solve the quizzes. The student participants were all foreign students in Japan. The language used for discussion was Japanese. The playing the game and discussion were recorded on video (Fig. 4). After conducting experiment, we analyzed the video data (interaction, conversation between participants and playing activities) with ethnographic methods (Hollan, Hutchins, & Kirsh, 2000).

The most interesting findings were come from the discussion in which the participants talked about what they did not sufficiently understand even about their own culture. Furthermore, through collaborating with each other, participants discovered that they were able to understand different food cultures and manners more precisely better by having conversations.

This experiment's analysis shows these three results. First, using 3D Metaverse offers the situation in an embodied learning environment and understanding to the participants. The reason we used this 3D Metaverse game is that for game based learning, embodiment is important for players’ immersion and experience for learning. Second, concerning the contextual based learning, in this game contextual learning situation stimulates players to appreciate and easily gain the new knowledge. Players are spontaneously participate in meaningful contexts and use the knowledge that will acquired from playing the games. Third, participants can understand culture better by interacting each other.

The research group consisted of 5 members, including one Japanese researcher and four international students (two Chinese, one Korean, and one Malaysian), with a gender ratio of four men and one woman.

There was a big screen that all participants could see, and they controlled the avatar to solve the quizzes. The student participants were all foreign students in Japan. The language used for discussion was Japanese. The playing of the game and discussion were recorded on video (Fig. 4). After conducting the experiment, we analyzed the video data (interaction, conversation between participants and playing activities) using ethnographic methods (Hollan, Hutchins, & Kirsh, 2000).

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Basically, participants’ learning is based on co-playing through interactivity. To solve the quizzes, participants collaborate with each other in a social relationship and this interaction has a positive effect to understand both ones’ culture and others’ culture.

In conclusion, this experiment suggests that using 3D Mataverse serious games can be useful to maintain players’ motivation to learn and to let them advanced in their learning process. Even though the topic was focused on the food culture and the table manners, suggest the further potential of using this learning design, which includes the interaction among players of different cultural background and seems effective to understand the cultural issues. To verify this conclusion and have a more generalized results, further experiments will be conducted with various participants’ rate of gender and cultural diversity.

References

Session 5B - Cultural/Global Context

Chair: Shuji Watanabe, Ritsumeikan University
Changing Imagery of Gaming and the Emergence of Re-playable Lives: 
Reflections of Gaming Practices across Japanese Pop-Cultural Media

Selen Çalik, Kyoto Seika University

In his article "On the Ontology of Fictional Characters," Umberto Eco draws attention to the finality of characters’ fates as the main source of emotional attachment for the audience. Contrastingly, throughout Gēmuteki Riarizumu no Tanjō, Hiroki Azuma explores the relatively recent profusion of repetitive elements in fiction —especially in anime, manga, and light novels— which put the concept of “finality” in danger. Mortality wanes as lives are easily restarted in original as well as fan-made works, very much like in games. This new kind of „game-like realism“ seems to be drifting away from social realities, taking a direction that has been negatively criticized by many as escapism.

But what if we consider that we are playing our lives? Especially today, with online interactions on virtual platforms being not only possible but also quite common all over the world, the relationship between video games and life cannot be reduced to a one-directional impact one has on the other. The “magic circle” of games increasingly reveals its porousness, bridging “play” and “reality” through more and more true to life renderings of 3D environments, “mimetic interface games” (in Jesper Juul’s wording) of Wii and Kinect, or through virtual reality equipment such as the Oculus Rift.

While such a phenomenon may escape the eye in its ubiquity, it can be observed rather clearly from the perspective of other popular media crossing paths with games. This paper aims to discuss the concept of “playable lives” in relation to the growing visibility of video games as a medium in the digital age, and across different media. Through the example of Sword Art Online, first appearing as a light novel series by Reki Kawahara (ongoing since 2009) then spawning across multiple media (including manga, anime and video games), reflections of gaming practices in Japanese popular culture will become visible. Combining media theory and intermedia studies, this paper intends to analyze the impact and the reception of gaming today, arguably giving birth to re-playable lives.
Novel Games, also called Visual Novels or Sound Novels, are reading games which origins and popularity are often attributed to Japan. But what are Japanese Novel Games and how can we frame their cultural and industrial particularity or legacy? This article will present one example of a quite famous amateur Japanese novel game to situate and investigate the larger history and cultural picture of this genre. Incorporating 07th expansion *Umineko no naku koro ni* in the larger frame of Otsuka Eiji’s autobiographical *Otakuseishinron*, I want to highlight how novel games are the historical product of the specific atmosphere of the late 80’s advertising and marketing tendencies, maturing and finding its urban homeostasis in the early 2000’s media ecology of entertainment, gradually shifting from a top down environment to a Peer to Peer one.

This lecture of novel games is therefore based on communication and linguistics to understand how the visual novel gaming experience is a narrative game and why it found its roots in the cultural re-emergence of publicity, urban legends, fan made or self made *dōjin* event. The article will also present the more actual iterations and movements created by this convergence of reading and gaming as “kakera asobi”, fragment gathering, that was born from Bikkuriman Chocolates and then became a gaming practice linking both video games and fan consumption. Using the *Umineko no naku koro ni*’s example of production, diffusion and reception models, we will connect those questions of urban consumption and fragmentary storytelling in the city of Toyo to dress up a history of the emergence of nowadays Japanese visual novel extended industry while exploring the specificities of its texts.

**Some References used in the paper**


Bakhtin, Mikhail, the Dialogic Imagination, Austin, Université du Texas, 1981.


Construction of Female Corporeality in Rune Factory Frontier – Patterns of a Local and Global Discourse about the Female Body

Sebastian Sabas, Heinrich Heine University Düsseldorf

As a part of the international media landscape and due to their growing diffusion among the population, video games have come to play a greater role than ever in the process of analyzing the construction of and discourse about cultural concepts. Through their participation in a local and global public discourse, video games depict social and cultural constructs as any form of expression does. One of the most controversially discussed constructs is female corporeality.

With its marriage system and the large number of eligible bachelorettes, the video game Rune Factory Frontier, published exclusively for Wii by Marvelous Entertainment (Japan) (Marvelous Entertainment Inc. 2008), offers the opportunity for an extensive discourse about various corporeal constructs. The characters from this video game depict various constructs of female corporeality that show patterns found in a local Japanese as well as in an international discourse about the female body. The fact that the game was published in Japan as well as North America and Europe indicates that it is important to look at the concepts of the game in the context of both discourses.

The design of these characters shows patterns of female innocence and de-sexualization known from the construction of the shōjo culture (Monden 2014: 272) as well as concepts of maturity and sexualization known from the construction of motherliness (Pike & Borovoy 2004: 497). These concepts – often discussed when talking about “Japanese” corporeal concepts – may be considered part of a local (Japanese) discourse about the female body. However, there are also categories considered part of an international construct of female corporeality, such as the beauty ideal of a thin body. Furthermore, the design of the characters in accordance to a culturally constructed “Western phenotype”, as well as their mostly non-Japanese names, indicate that the game has to be seen as a part of an international discourse. The construction of corporeality in Rune Factory Frontier therefore shows local as well as global patterns.

This paper aims to deconstruct the corporeal concepts constructed in the game and explain them in the context of a local Japanese as well as an international discourse about female corporeality. It will show that the construction of corporeal concepts of the game has to be seen as a combination of patterns of local and global discourses about corporeality. Furthermore, it will discuss possible motives for the application of certain stereotypical corporeal categories in the context of a glocalized publication of Japanese video games.

Works Cited


Session 6A – Industry criticism

Chair: Kazufumi Fukuda, Ritsumeikan University
Developing new business models for content creation in the Chinese game industry

Paul Martin, Bjarke Liboriussen, Andrew White, University of Nottingham Ningbo China

As reported by Talking Heads’ David Byrne, creative workers and artists generally feel that they are not receiving sufficient reimbursement for their online content (Byrne 2013). Confounding those who argue that barriers to entry to online markets are being lowered through the widespread diffusion of low cost digital media devices and software, entertainment markets have become more concentrated in recent years, such that a small number of conglomerates tend to dominate each sector (Elberse 2013; Hesmondhalgh 2012). This tendency is even more pronounced in online entertainment markets, where access to electronic products is predominantly managed through gatekeepers like Amazon, Facebook, Google and Apple. Although Chinese equivalents such as Alibaba, Tencent, Sina and Sohu might not have the same near-monopoly status enjoyed by Google and Apple in certain western markets, increasing monopolization of online markets generally benefits mainly the owners of gate-keeping companies and the advertising industry parasitic on online content.

How to divert the proceeds of online content into the hands of the creators rather than the gate-keepers is a question that has long concerned artists and creative workers as well as scholars. Part of the answer to this question will involve innovative uses of technology, especially where they have the capacity to deliver micropayments to these content creators. This has been explored by UK and American practitioners and scholars in relation to the music industry, newspapers and film (Graybeal & Hayes 2011; Lanier 2013; Leyshon 2014; Taylor 2014), and there have been developments in ‘blockchain’ technology which have the potential to contribute to the creation of efficient micropayment models (Bartlett 2015). As Ren and Montgomery (2012) have demonstrated in relation to online literature, the Chinese Internet is a site of many different innovative models for providing direct payments to original creators.

This paper is based on the initial findings of a team of researchers who are considering the global question of the creation of new online business models to investigate what type might be appropriate for generating revenue for creators of content in the respective Chinese creative industries in which they have particular expertise: music, journalism, video games and film.

The presentation will pay special attention to the development of micropayment, or ‘freemium’ business models for Chinese online and mobile gaming, models whose popularity have grown exponentially in recent years and now sustain a majority of new games globally (Lehdonvirta & Castranova 2014: 13). Although China is widely regarded as something of a parasitic copycat in the domains of consumer electronics and digital entertainment – cf. the popularity of the notion of ‘shanzhai’ (Chubb 2015; Pang 2012) both domestically and internationally – the development of these freemium business models in the early 2000s marks a moment of world-leading innovation (Nakamura 2015; Yu 2014). This moment is yet to be formally documented and we intend to do so based on expert interviews to be conducted in the spring of 2016.

References


Harnessing the Power of Persuasion: Strategies towards Increasing Women’s Participation in Japan’s Game Industry

Mimi Okabe, Geoffrey Rockwell, University of Alberta

What are the opportunities for women in game design in Japan? This paper will look at the formal and informal opportunities for women to get involved in designing videogames. According to the Job-Jam Kyoto 2015 (a job fair that featured various game companies) the ratio between men and women applicants was 73:34. At the Kyoto Indie Game seminar, the ratio was 20:1 or 30:1. The staggering difference in the number of women (versus men), who are interested in pursuing a career in videogames and/or the game industry in Japan, begs the question: why are so few women interested? What socio-political and cultural factors are at work? And what are some strategies to begin minimizing the gap?

In his effort to revive an economy hampered by a declining population, Prime Minister Shinzo Abe’s campaign for womenomics—to fill 30% of leadership positions in Japan held by women by 2020—might offer a solution to increase the number of women in Japan’s game industry, but is it enough? Interviews with Japanese women game developers, which were conducted in the summer of 2015, make visible complex and cultural anxieties about women in positions of authority that ultimately, the limits to women’s career advancement. In particular, cultural myths such as maternal altruism and protectionist discourses were two key factors affecting a women’s decision to enter and stay in the game industry. The women interviewed also shed light on broader issues of women’s participation in the Japanese workforce.

The future for women in the Japanese game industry is promising. In addition to the increasing number of college programs that offer game studies, organisations such as WomenWhoCode Tokyo are redefining cultural perceptions about the relationship between women and digital technologies. Moreover, there are online forums and websites such as Doujin Game Production Institute that enable women and enthusiasts alike to create women’s games (josei-muke gemu), and Otome games. Websites such as these provide chat venues, “How to” tools, Q & A sessions on doujin soft, and tips on how to use photoshop etc, making the world of game development accessible to women in different ways. However, this does not provide an explanation for the discrepancy between women and men who actually enter the workforce.

By drawing on the conversations with women game developers in Japan as a platform to further investigate issues of workplace inequality, this paper interrogates feminist literature on gaming to recommend changes that would make game design more welcoming. It also examines various strategies taken by women (and men), currently in the game industry, that encourage women’s participation within Japan’s game industry.

References:
Yamazaki, Masato. Doujin Game Production Institute.
Dark Side of the Sun: A controversial examination of the underworld of the Japanese video game industry

John Szczepaniak, Freelance Journalist

It’s well accepted that Japan has a culture emphasising hard work (1); up until the 1980s, it was normal to work a 6 day week. There is even a word for death from overwork, karoshi (2), in addition to one of the highest suicide rates in the world. In the aftermath of World War II there was a focus on work and, as one Japanese game developer states, the perception was that „play“ was bad. (3) Although Japan is becoming an increasingly leisure based society, and video games are very much a leisurely pursuit, the foundation and history of game development is built on long working hours and brutal conditions. The humorous cliché is that Japanese workers spend their lives in the office, sleeping under their desks, but this is actually quite true. In addition, the negative perception of „play“ meant that games, along with other forms of entertainment, ended up entwined with the yakuza. (4)

Based on statements from over 30 video game developers, I aim to examine the many darker aspects of game development in Japan. Excessively long working hours, working without sleep or food, living in the office for months at a time, being kept locked in the office until work is completed, underage employees (as young as 14) breaking labour laws, low pay, no royalties, tax evasion and fraud, physical violence towards staff, and the negative effects of all this on people’s physical and mental health, resulting in illness, depression, and thoughts of suicide.

Most significantly, overlaying all the above, is the presence of the yakuza, as a means of funding the start of new companies, sabotaging rival developers, and acting as a protective force in arcades (cited example being arcade developer Taoplan). Video games, though mainly marketed at children, are not the squeaky clean industry many believe, and there is much overlap with adult entertainment such as pachinko. Despite the negative perception of such organisations, they were essential to fostering and developing the early industry.

There is undeniably a dark side to video games in the land of the Rising Sun, one which few acknowledge and even fewer investigate. However, although all of this might seem scandalous, all of those involved did so willingly and eagerly. They worked with the yakuza to build games into something more stable. They suffered through hardship to build an industry which became a world leader. Indeed, it is my belief that an intrinsic culture of hard work and self-sacrifice is one of the key reasons that Japan dominated the arcades, in addition to 8-bit, 16-bit, 32-bit, and the PS2-era of home gaming.

Japan’s success and historical legacy is thanks to this intrinsic sense of „giri“, a sense of duty and obligation (5), of self-sacrificing devotion to the cause, the group, the greater whole. Sadly, due to a policy by almost every company to hide the names of developers (for fear of headhunting), these heroes of Japan have gone unknown.

References:
Session 6B – Game Design/Difficulties

Chair: Jan-Noël Thon, University of Tübingen
‘Metroidvania’ As Japanese Take On (Semi-)Open World Game Design – From early platform games like Metroid and Castlevania to RPGs like Dark Souls and Bloodborne

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Keywords: metroidvania, game space, level structure, difficulty, maze, labyrinth, theory of space

Like in European garden design of early modernity the game worlds of the Japanese Metroid (Nintendo 1986-2010) and Castlevania (Konami 1986-2014) game series use mazes and labyrinths in order to entertain the gamers and bereave them from survey and control. In the mid 1980s Japanese platform games like the said as well as the Mega Man (1987-2015) or Contra (Konami 1987-2013) series combined the most challenging difficulty levels with game mechanics from role playing or shoot’em up genres. Once an established gameplay technique of the 8- and 16-bit eras this distinct staging of the implied gamer’s experience by complex level structure and hard to champion events (e.g. boss fights) nowadays is a niche in gaming culture. The effort of replaying a certain point over and over again, the uncertainty of decoding the game mechanic’s semiotics in the right way due to the lack of explanations (Eco 2009), and the avatar’s ever repeating death as only performance to understand these game worlds, make these franchises special cases of what western game studies’ discourse defines as (semi-)open world game (Ascher 2014).

What Metroid and Castlevania did differently compared to the separately loaded single stages of Mega Man or Contra is the interconnection of linear level tubes as networks at unforeseeable points in the game architecture. Only by several gaming sessions, free-roaming and mastering of certain events, the players unmask the game world’s coherence and spatial logic including non-euclidean shortcuts. These distinct interconnected platform structures were coined by the term ‘Metroidvania’; a Japanese design solution for pacing hard to master videogames that also saw many western copies and pastiches in its wake.

Today this special procedural rhetoric (Bogost 2010, Paul 2009) can be understood as a Japanese take on open world game structures. The figure-ground architecture (Totten 2014) of such ‘metroidvania’ game worlds exists in one game space contrary to the single, enclosed levels that beforehand were established in 2D sidescroller platform games. By referring back to the characteristics of said franchises, Japanese developer FromSoftware uses aforementioned level structures and spatial arrangements as dramaturgical agent in their critically acclaimed third-person action RPGs Dark Souls (2011-2016) and Bloodborne (2015) in order to stage certain aesthetics contrary to today’s western game play concepts (Van Nuenen 2015; Vella 2015). This paper will analyze the traditional Japanese ‘Metroidvania’ game worlds by exposing their spatial elements (Totten 2014) and characteristics from 1986 to 2015 and define them as Japanese take on (semi-)open world video games.

Bibliography
Moral Ambiguity and Player Complicity in the “Souls” Series
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Morality, moral choice and ethical dilemmas have become prominent gameplay elements in videogames over the past few decades. Consequently, they have been discussed extensively in recent years among gamers, designers, and scholars (Reynolds 2002; Takahashi 2004; Consalvo 2007; Tavinor 2007; Project Horseshoe 2009; Zagal 2009; Stevenson 2010; Gies 2012). One of the main criticisms raised by players, critics, and scholars alike is that most games are too simplistic in both their portrayal of moral subject matter and in their implementation of moral choice as a gameplay mechanic (Sicart 2009, 2013a/b).

Most of this discussion has focused on “Western” role-playing games, such as Fable, Dragon Age, Mass Effect, Fallout or The Elder Scrolls. These franchises have put player decisions, and most prominently moral ones, at the forefront of their marketing. In all of them, choices are a key component of both the overall narrative and the minute-to-minute gameplay, with players choosing an alignment, deciding which virtual races or NPCs to save or eliminate, and solving the games’ overall dilemmas.

In contrast to the aforementioned games and body of academic literature, we will broaden the scope of the debate by focusing our presentation on Japanese games. Specifically, we will reflect on FromSoftware’s “Souls” series, i.e. Demon’s Souls (2009), Dark Souls (2011), Dark Souls II (2014), Bloodborne (2015), and Dark Souls III (2016). Not only have the “Souls” games invigorated Japanese games’ cultural cachet in the West in recent years, they have also had a massive influence on game design in North America. And when it comes to portraying moral issues, these games explore moral gray areas like few others do.

Thus, our talk will deliver a close reading on moral ambiguity in the “Souls” series, focusing on how these games make players complicit in morally ambiguous or downright questionable acts. Specifically, we will discuss how the “Souls” formula uses the following elements to create moral ambiguity:

1. The games’ settings and overarching narratives are obtuse and ambiguous.
2. Almost none of the non-player characters (NPCs) that players meet are merely either good or bad.
3. The games’ main quest lines are morally ambiguous, and their multiple endings are open to moral interpretation.
4. Players meet NPCs that introduce well-hidden, morally questionable, and unpredictable side quests.
5. Specific locations within the games offer narrative backdrops that allow for multiple moral interpretations.
6. Hardly any of the moral choices in the games are binary in terms of good or bad, and they are not evaluated by game systems like “karma meters.”
7. The games’ lore is introduced sparsely via obtuse dialog and item descriptions, tasking players with piecing together the narrative and moral qualities of the games’ characters.
8. Even presumably obvious moral decisions often get reframed via specific, hidden information that entirely changes the context within which players interpret them.
9. Lastly, the games feature multiplayer elements that allow players to interact with one another in a wide range of morally ambiguous ways.

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A theory that studies diversity for profit called Difficulty Engineering and Intrinsic Difficulty

内発的難易度による難易度工学

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A desired goal, it was made by "the Intrinsic Difficulty". Typically, The Difficulty is supported just extrinsic difficulty, however The Structure of Multiple Difficulties gives a person motivation by balancing for priorities between multiple difficulties. (Watanabe, 2015) We focus on these two characteristics in "The difficulty". One is "HMD" (the Hierarchization of Multiple Difficulty) and other is "SMD" (the Structuralization of Multiple Difficulty).

These theories are by applying Hierarchization and Structuralization for player skill in sports psychology (Nakagome, 2007). By way of example in "Pac-man"

"HMD" which is capable of assisting a playing a digital game so that even a beginner can make come to grips with playing more the lowest class difficulty (ex. "run away from monsters!" or "get dots!"). by capable property for ignore higher class difficulty (ex. "achieve a high score!"). This make a beginner get to a flow state faster by recognized simple game mechanics.

In other side, "SMD" is capable of assisting a senior player for longer span flow state even combination of simple difficulties for instance the following.

In the case of looking "Difficulty of clearing one stage", and other case of looking "Difficulty of achievement high score", each case has same lower class difficulty such as "Difficulty of getting dot". However "Difficulty of getting dot" included both case there were recognized different properties even identity game mechanics. In other words, when player recognizes higher class difficulty, he has to change strategy for optimal solution (ex. "distance from monster" "time of getting power pellets") of playing lower class difficulty even a playing for identity extrinsic difficulty design.

As in HMD and SMD, a player can select to focus "Difficulty" between following A and B even single experience in a game.

A) The tactical thoughts to solve narrower class (higher rate of time preference)
B) The strategic thoughts to solve more massively difficulty class (lower rate of time preference)

Even in a player, a structure between A) and B) is capable for making his prediction based on his own skill. In this way a player is able to select a degree of difficulty how to efficiency for real-world time, that is named "intrinsic difficulty" for this paper.
Examples include battle scene of JRPG, We seems a Difficulty is simply “Enemies” in these games, However a player have to challenge difficulty these are “Defeating enemy more earlier” by game mechanics that was imposed a burden as “Real-world time” such as “Game Over” or “Penalty for respawn” or “Billing”. (Watanabe, 2014)

He have to think more eariler way on his skill such as a using GOLD between A) buy sword and B) recover HP at an inn. Thus, extrinsic difficulties are able to guide player in his intrinsic difficulty. What is the difference between the viewpoint of “Difficulty model” and “Goal (or Purpose, or Objective) model”?

The Cliff-nize (The crosswalk often change into the cliff) is one of the most important and general example for knowing what is “Difficulty model”.

“Difficulty Engineering” is theory and engineering for “the dropping” and “no definite purpose”. Flow Theory that is need to define “Goal (or Purpose, or Objective)”, and Game Theory that is need to define “profit”. Decidedly, “Knowing how we should do it” is best solution a pursuit for profit in our world.

“Difficulty Engineering” indicates a solution for “the diversity for profit”.

It is capable for explaining a phenomenon that is the process of accruing “Goal”, and “Goal” induces next discovering new difficulties. In other words, “Goal” is just a byproduct in “Difficulty Engineering”.

The human is a living thing that can’t help finding “difficulty” in his world beyond the verbal. And the Digital Games are “The Arts (Observation and abstraction) for the Difficulty”, because there are Real-world and Game design in the same plane on “The Difficulty”.

References


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