Current Situation in the Japanese Game Research and Game Development Pedagogical Practice

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Game Education in Japan

Qestion

- There are 764 University
  (82 National, 87 Public, 588 Private 7 others)

- How many University have faculty named "Game" something?
  - Game design, Game development, Game study, Game programing etc
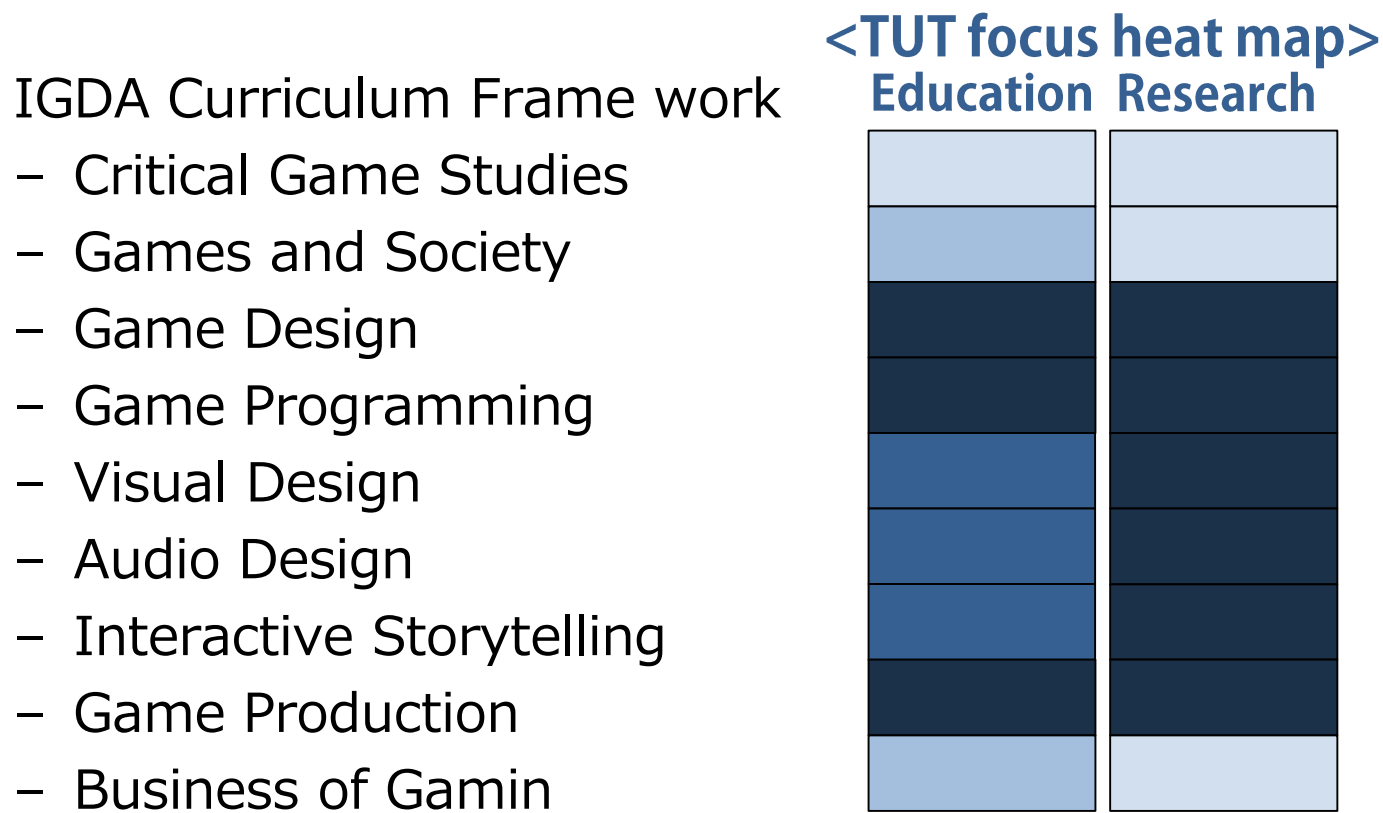
More than 100?

51 – 99?

11 – 50?

Less than 10?

Background of Education in Japan

- There are no "Faculty" includes name of "Game" in 4 year University
  - There are a few game "Section (2)" or "Course (less than 10) as University"
  - Many University uses framework of Informatics or Media Science (ie. TUT and Kanagawa of Institute Technology)
  - Curriculum restriction to new faculty by government
  - Strict requirement for teaching staff of new faculty (Ph.D degree, number of Journals)

- Many Universities and Researchers conduct Game Researches

- Most Game Development Education has conducted in Vocational School (almost 40 school) (Diploma or non-Diploma)
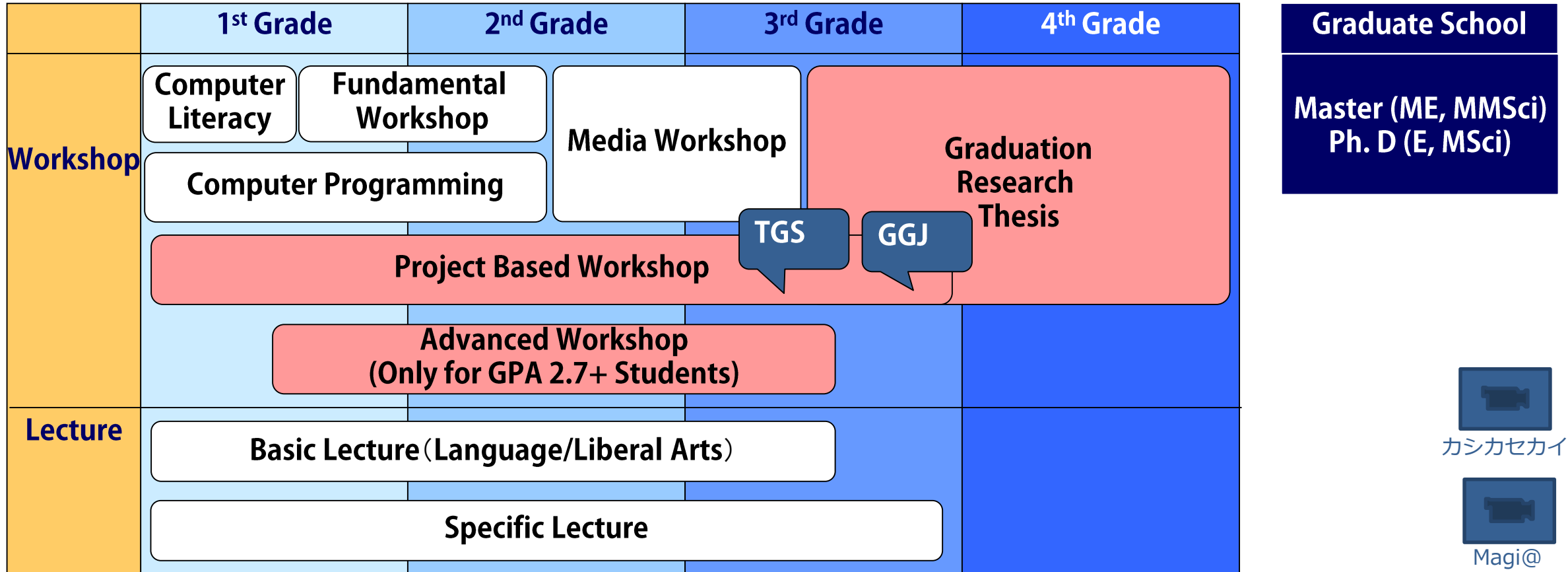
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TUT Curriculum

TUT Game Education and Research Heat Map

- Game Design, Programing, and Game Production Experience of IGDA Curriculum Frame Work are focused

IGDA Curriculum Frame work
- – Critical Game Studies
- – Games and Society
- – Game Design
- – Game Programming
- – Visual Design
- – Audio Design
- – Interactive Storytelling
- – Game Production
- – Business of Gamin

\<TUT focus heat map\>

Education	Research

Utilize Education Framework of School of Media Science

	1st Grade	2nd Grade	3rd Grade	4th Grade
Workshop	Computer Literacy / Fundamental Workshop			
	Computer Programming	Media Workshop		
	Project Based Workshop		TGS GGJ	Graduation Research Thesis
	Advanced Workshop (Only for GPA 2.7+ Students)			
Lecture	Basic Lecture（Language/Liberal Arts）			
	Specific Lecture			

Graduate School

Master (ME, MMSci) Ph. D (E, MSci)

カシカセカイ

Magi@

Game and Computer Animation is mainly trained as a project based Workshop

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Game Jam Style Education

- Lots of experience from total game production
- Completion (Finishing), Evaluation and Discussion are Important
- No completion (Finishing) = No progress
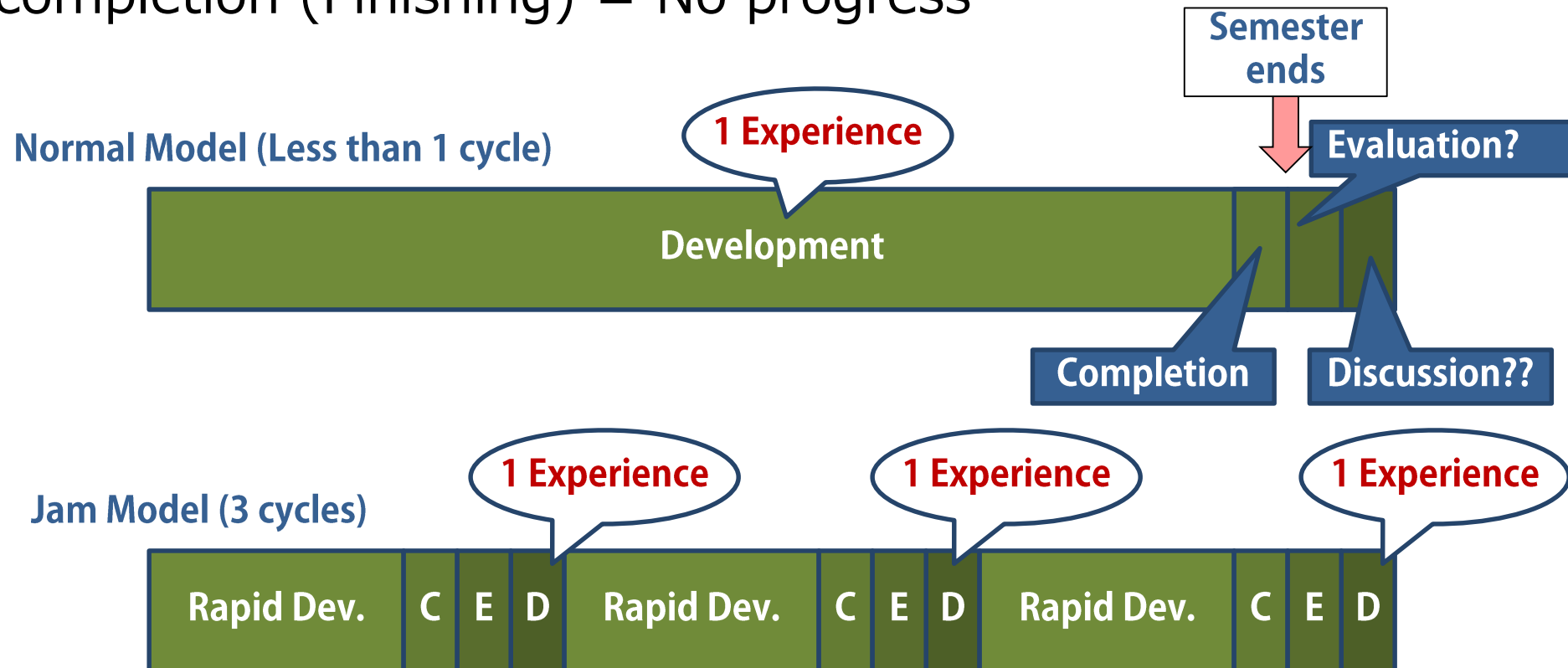
Journal Regarding Game Education

- Construction trial of a practical education curriculum for game development by industry-university collaboration in Japan
  - Computers and Graphics Volume 34 Issue 6, December, 2010, Pages 791-799
  - https://dl.acm.org/citation.cfm?id=1891110

- Effectiveness of Game Jam-based iterative program for game production in Japan
  - Computers & Graphics Volume 61, December 2016, Pages 1-10
  - https://www.sciencedirect.com/science/article/pii/S0097849316300863#!

There are link in my web
http://mkmlab.net

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Result

- First successful example for 4 year game development curriculum
  - Accepted as Gavernment fund many times
  - Students could create original game and awarded
  - Students could publish journal and awarded
  - The Curriculum and Education Material also awarded by IPSJ (the biggest IT society in Japan)
  - TUT became core venue of "Global Game Jam"

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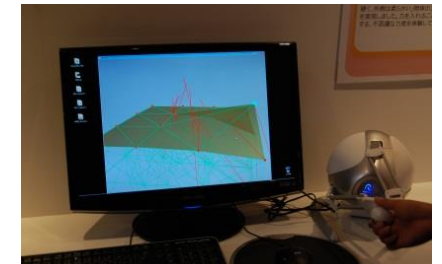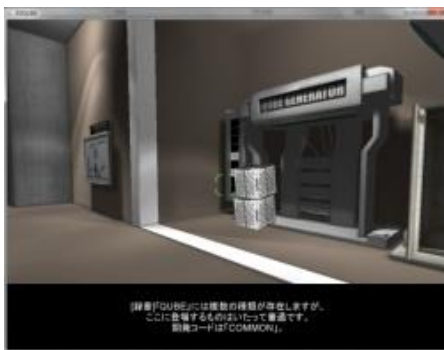
My Lab. Students Working in Industry

- Games
  - Satoshi Ban, Producer of "Sony Interactive Entertainment"
  - Kenneth Chan, Game Designer of "From Software"
  - Takashi Matsuo, Technical Artist of "Cyber Connect 2"
  - Working most of game publisher and developer

- Animation and Feature Film
  - Yoshitaka Takeuchi, 3D Director of "Your Name."
  - Toshio Yoshikawa, Production MGR of Studio Ghibli "Princess Kaguya"

Game Design Contest for Younger Generation

"Peracon"

-A concept sheet contest at CEDEC-

Motivation

- Students were able to experience game development
  - Some of the games are awarded and have reasonable quality

- Students could learn advanced technique in Programing, Graphics, Sound and so on
  - We can evaluate their works (Program code, Portfolio or Demo Reel, Music score and so on)

- Game Design sometimes difficult to evaluate without products or prototype
  - Recently game engine help it in some extent…

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Game Design Advanced Education

- There are very good publications for Game Design by Eric Zimmerman, Keti Salen, Tracy Fulluton and so on
- Students can learn theory and case study

We require more crazy game designer who has eccentric, cutting edge, quite new idea

There are very unique game designer in Japan
(But they have quite deferent thought and busy)

We would like to Utilize tremendous talent in a short time to encourage cutting edge game design education by collaboration with famous professional events

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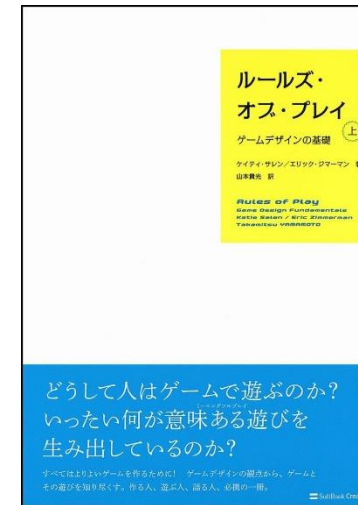
Our Method

- Peracon (A concept sheet contest) at CEDEC
  - "Pera" means 1 sheet
  - Competition by 1 page (A4 or Letter size) concept sheet
  - CEDEC is one of the biggest game developers conference in Japan

- Judge by many famous Japanese Game Designer and Director
  - To keep Diversity of evaluation

- Archive all of the "Pera" and Comments from Judge
  - Students and young game designer can feel the thought of idea of skillful game designers to individual game idea
  - They also can learn "Diversity" (skillful game designers sometimes have opposite idea)

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CEDEC

- Game Developers Conference hosted by CESA
  - More than 200 sessions regarding Game Design, Engineering, Visual Arts, Sound, Production, Management, Business, Academic and so on
  - More than 7000 attendee for 3 days conference

- CEDEC 2018 22-24, Aug. 2018 at Yokohama, Japan
  - Keynote by Shigeru Miyamoto (Nintendo)

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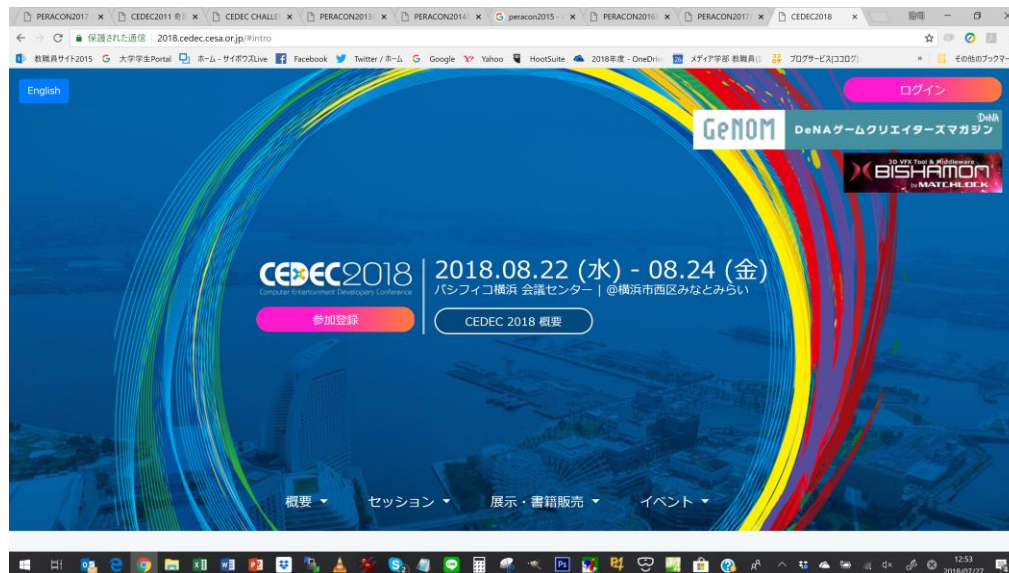
List of Judge (Abstracted)

Name	Works	Name	Works
Masanobu Endoh(Digra) (Chair of "Peracon")	"XEVIOUS", "The Tower of Druaga"	Hiroshi Matsuyama	".hack//G.U."
Takashi Hiraro	"Star Wars: Racer Arcade"	Tetsuya Mizuguchi	"Rez Infinite", "Chile of Eden"
Toshiyuki Hoi	"God Eater"	Yuji Naka	"Sonic the Hedgehog"
Yuji Horii	"Dragon Quest"	Yasuhito Nagaoka	"Gravity Days"
Mizuki Hosoyamada	"Puyo Puyo!! Quest"	Junya Okura	"Gravity Days"
Kazutoshi Iida	"Kyojin no Doshin"	Yosuke Shiokawa	"Fate/Grand Order"
Toru Iwatani(Digra)	"Packman"	Hiroyuki Sonobe	"Best Keiba Derby Stallion"
Kenji Kaido	"ICO", "Shadow of the Colossus"	Masanobu Suzui	"NES Remix"
Yuichi Kanemori	"KINGDOM HEARTS"	Goichi Suda	"Killer7", "LOLLIPOP CHAINSAW"
Koji Kenjo	"Custom Robo Battle Revolution"	SWERY (Hidetaka Suehiro)	"D4: Dark Dreams Don't Die"
Masahide Kitoh	"Dead Storm Pirates"	Takashi Tokita	"Chrono Trigger"
Yoshihiro Kishimoto (Digra)	"R.B.I. Baseball", "Baraduke"	Tomoyuki Yamada	"Uncharted Waters Online"
Kazutaka Kodaka	"Danganronpa V3: Killing Harmony"	Yohei Yanase	"Majin and the Forsaken Kingdom"
Hiroyuki Kotani	"Patapon"	Yuichi Yokoyama	"Blaze Union: Story to Reach the Future"
Yasumi Matsuno	"Tactics Ogre: Let Us Cling Together"	Koji Mikami(Digra)	

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History of Peracon (1,038 submission)

Year	Submission	Theme	Theme reason
2011	57	Stopover （途中下車）	In memory of narrator narrator of the TV program using the same phrase
2012	92	Men and women simultaneously （男女同時）	In the 400-meter medley relay of swimming, men and women acquire medals simultaneously
2013	111	Temperature control （温度コントロール）	In memory of Yoshida, who served to cool down the Fukushima nuclear power plant
2014	157	Self-growth （自己増殖）	From Ice Bucket Challenge to support ALS
2015	242* （open entry）	Open （オープン）	Submission are open to everybody 〈normally attendee only〉
2016	195	Ring/Ling （リング）	From the 5 rings of the Rio Olympics
2017	184	Baton touch （バトンタッチ）	Japanese athletes took medals at the world championship 400-meter relay

Submission

- Organizing Committee Provide Theme
  - Theme which is difficult to imagine the games as is
- Create concept sheet and upload it to the system or submit it on site
- Concept sheet will be displayed at web site and on site board at CEDEC
  - Early submitter will take better place of web and board
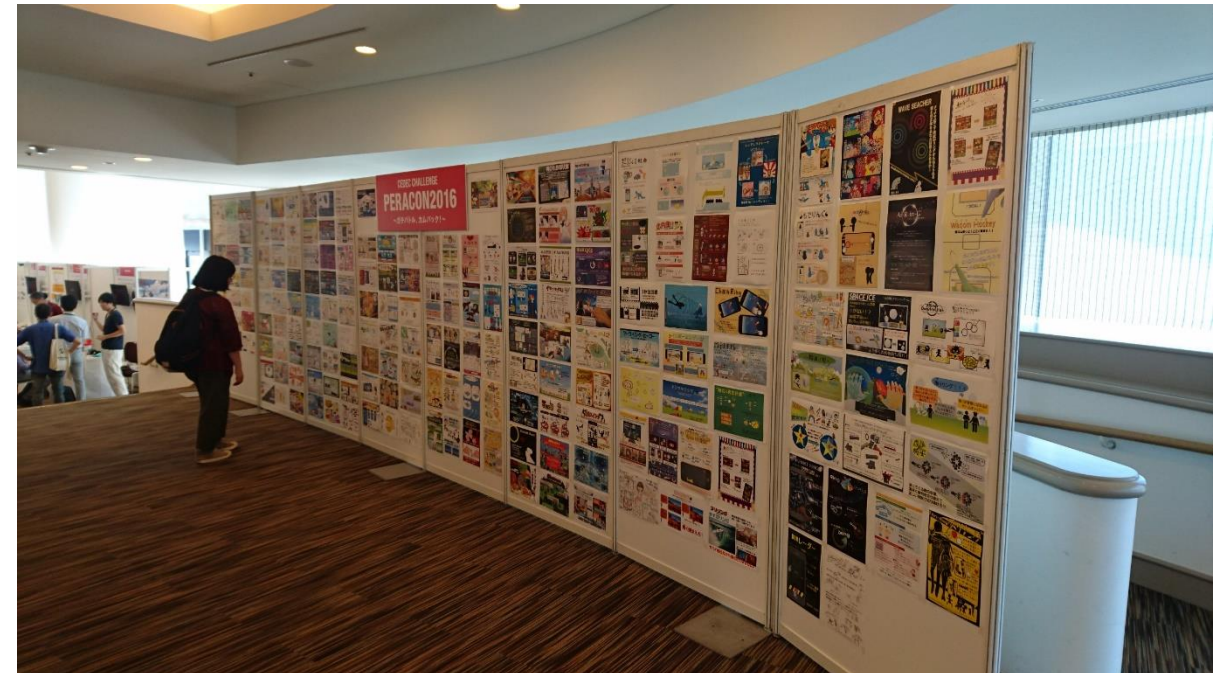
Judgement Rule

- ## Official Judge
  - Judgement by selected judge (skillful game designer and director, educator)
  - Official Judge just check "like" or "not" (almost within 15 seconds)
  - Judge will leave comments and select the candidate of Special Prize named them

- ## Open Judge
  - Judgement by audience of website
  - If official judge point is same, we consider open judge score
  - Official judge will usually review sorting by open judge score

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2017 Best Sheet (184) "Guide! 10 seconds Robot"
Theme: Baton touch

みちびけ！10秒ロボ

ロボを操作し、ゴールを目指せ！
しかし、ロボはたったの10秒で電池切れ。
電池が切れたら、次のロボが
スタート地点に現れ、そのロボと交代だ。
クリアのカギは、電池切れのロボの位置！

ルール

ツギハ ボクダ！

デンチキレタ…

ロボは自分の身長
くらいならとべる

電池が切れたら
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電池切れのロボは
足場になる。

3台でクリアせよ！

指定の台数以内で
ゴールすればクリア！

あそび

00:00   01:36

そのまま進んでは10秒では
間に合わないが…

電池切れのロボを
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こわれブロックの
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べとべとゆかに
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1度乗ると
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乗るとおそくなる
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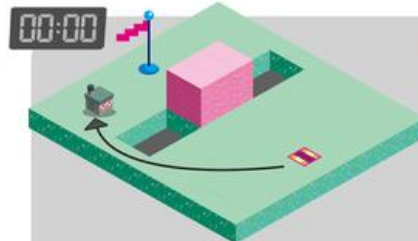
ギミックも登場し、いろいろなステージが楽しめる！

Positive

Nagaoka
It is easy to understand what kind of game it is, it is a good impression that the theme is properly digested. Besides making a foothold, if there are various uses of robo out of batteries, the depth as a puzzle will come out.

Watanabe
It seems that it will be interesting if you can arrange a gimmick so that the route to the goal is not too linear.

Negative

Yanase
The making of the proposal is very beautiful and good. Because the takeover action where corpses remain has a precedent, it is a pity that the novelty is weak. I wanted elements unique to robots.

2013 Best Sheet(111) "Easy Tera Form" Theme: Temperature control

Positive

Hiraro
I thought that the motif of temperature control is compatible with "garden observation type AI game". There were many competing proposals, but the project plan here is particularly wonderful in the world view.
A somewhat nostalgic image was pretty lovely, I felt outstanding! I want to play! !

Negative

Mikami
I like this visual. But it is wasteful that the user can operate only the direct change in switch.
Yanase
The concept that terraforming can be done with a combination of living things to send is interesting, and the sheet is also very beautiful. But is it strange for themes to control living things freely by switching between day and night?

2013 Rank 101 (Takahashi Award) "Cool Sing Heat"

Positive

Takahashi
I like this kind of thing. You have to work hard on the system etc, but at the real live venue, everything will be able to control?

Negative

Matsuno
I think that the means of "singing songs well" and "singing poorly" are important, but it is regrettable that there is no reference to that means.

Swery
The temperature control is the result, and the center of the game is in the performance part, so it feels like changing ordinary rhythm games and dance gates.

Miyagawa
The strategy method and the score are a little confusing.

Result and Comments are achived

Conclusion & Thank you

- There are few University which teach game development but many Universities and Researchers conduct Game Researches
- Peracon (a unique game design contest) are conducted in corporation with famous game designer and director and the result is archived

Contact
Koji Mikami (mikami@stf.teu.ac.jp)
Twitter: @mkmtut
URL: http://mkmlab.net/
             (I will put my full version of presentation on web site)

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Supplimental

"I Drop Off"

2011 Best Sheet(57)
Theme: Stopover

"Switch Detectives Double Heart"
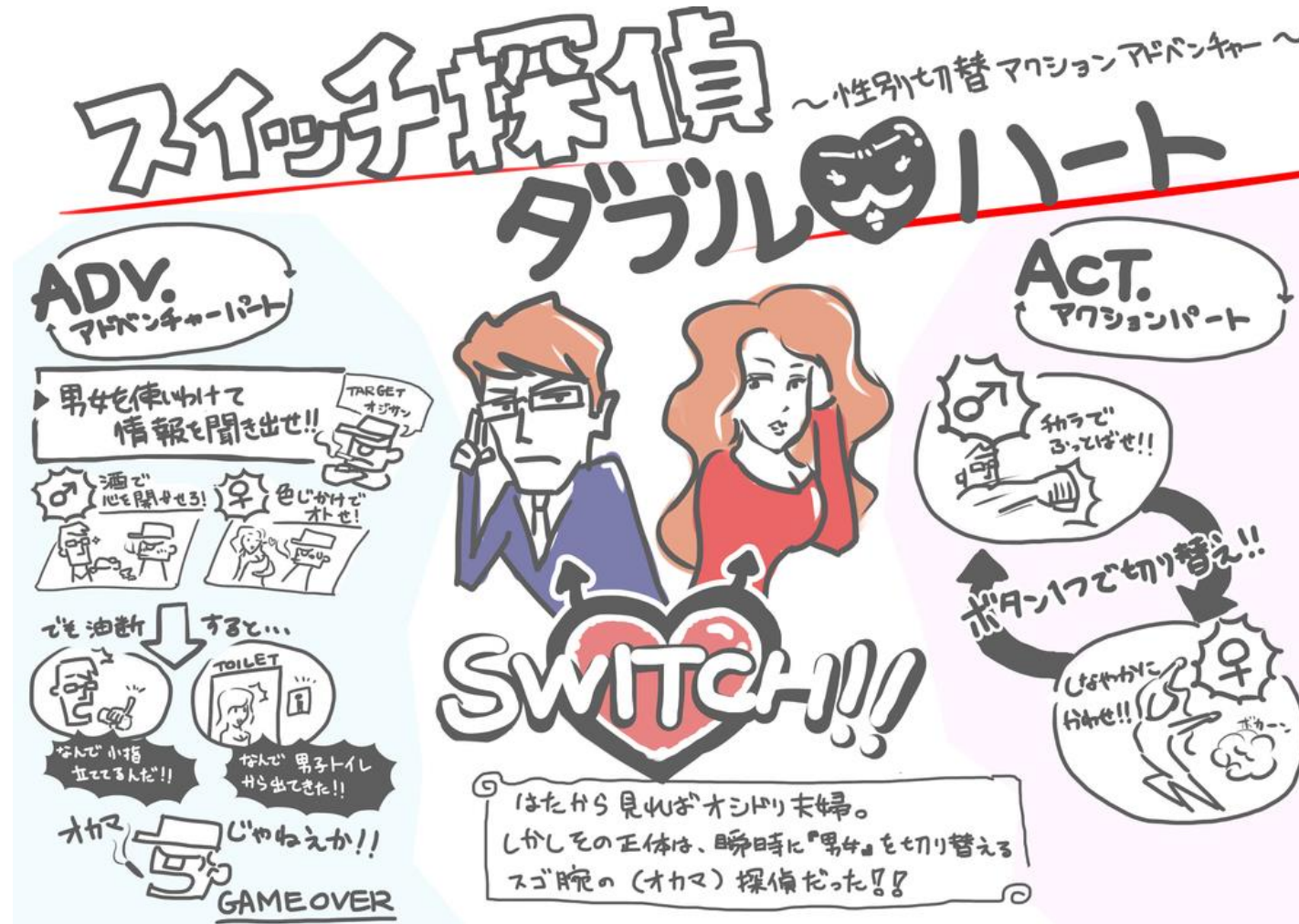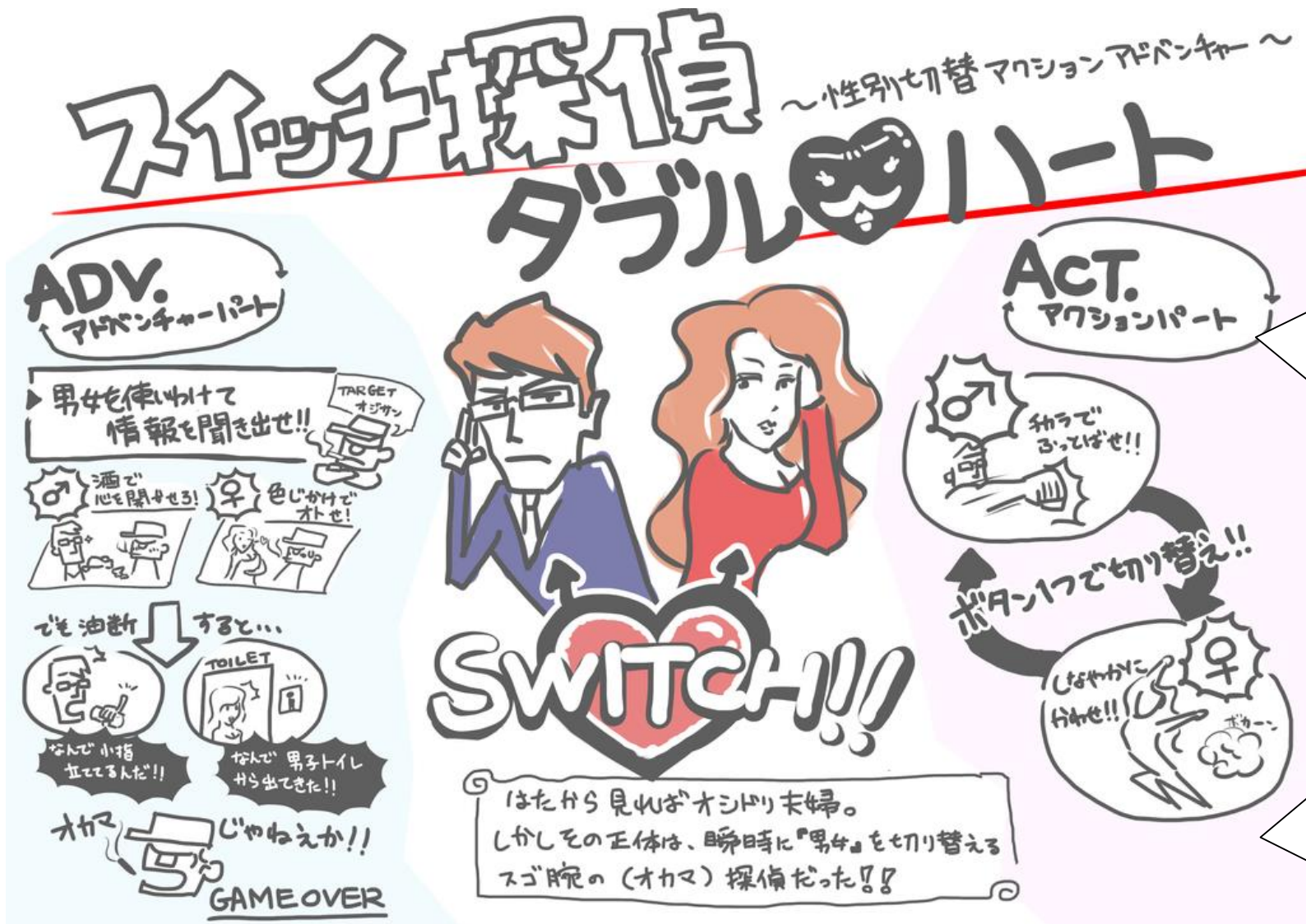
Positive

Miyake
Play can be imaged at the moment. Various ideas are likely to come out when brain storming.
Ishikawa
There are a lot of ideas of swapping men and women, but it was nice to know what I could and what happens at the moment I saw it. The composition of the document is also good.

Negative

Yasumoto
Although the ADV part is good, the necessity of switching the sex is difficult to understand in the ACT part.
Sugawara
I think that the degree of completion is very high. But, in myself, it is impressive that "swapping" is different from "simultaneous" … It is regrettable.

"Easy Tera Form"

2013 Best Sheet(111)
Theme: Temperature control

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2014 Best Sheet(157)
Theme: Self-growth

Japan "total dandelion" plan

2014 Best Sheet(157)
Theme: Self-growth

Positive

[Okura]
I was impressed with the point of view of using the ultimate random element "wind direction", which is in cooperation with real data, and nothing can be done by human power.
【Endoh】 Idea focusing on breeding of plants. The idea of taking the wind part from the weather forecast to make it an element of the neglected part is good. If the theme is weather forecast wind and abandonment, the main line is how quickly you can reach the destination with a wind-free balloon that can only handle the timing of takeoff landing. With the nationwide total dandelion, the purpose is blurred and it is difficult to motivate the end of play.

Negative

[Shimoda] If all is linked with natural phenomena, there is no room to play as a game.

"10 seconds dash"

2015 Best Sheet(242)
Theme: Open

Positive

Iwatani
 Doors not knowing whether to pull or push, shapes of the knobs are strange, escape walls to break through and so on can be considered diversely.

Nagaoka
I thought that it is good to connect simple ways to open various doors to game properties. I thought that it would be nice if there was a promising funny opening way, such as opening the door with a pistol shot with a locked door.
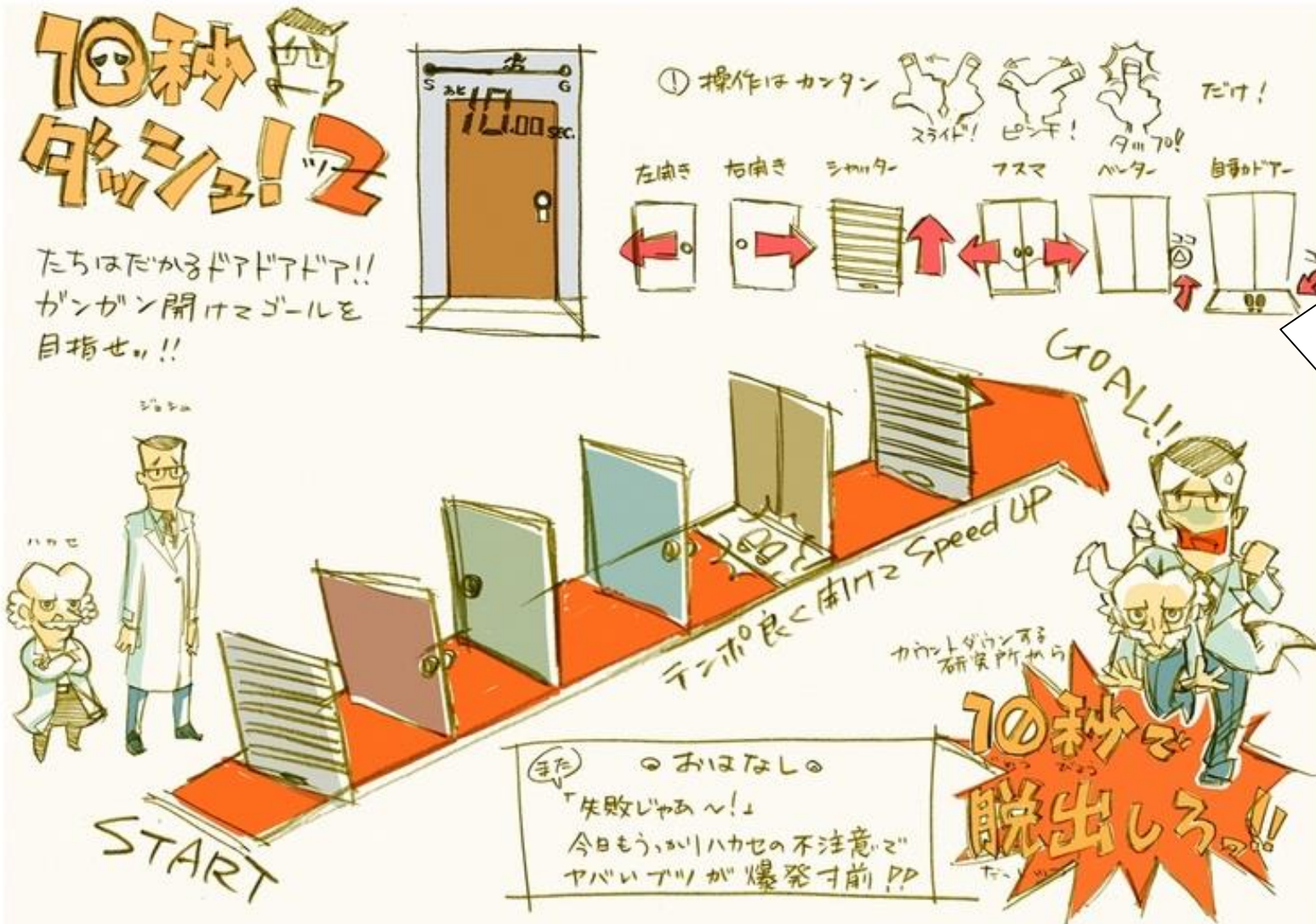
Negative

Shimoda
I do not know the meaning of 10 seconds in this case. It can be said that all the obstacles of the so-called run system game were made into doors.

Endoh
A game system that feels like it already is. As this idea alone got bored with one minute, it should have suggested a fun amusing as a metagame

"Climb Gulin Tower"
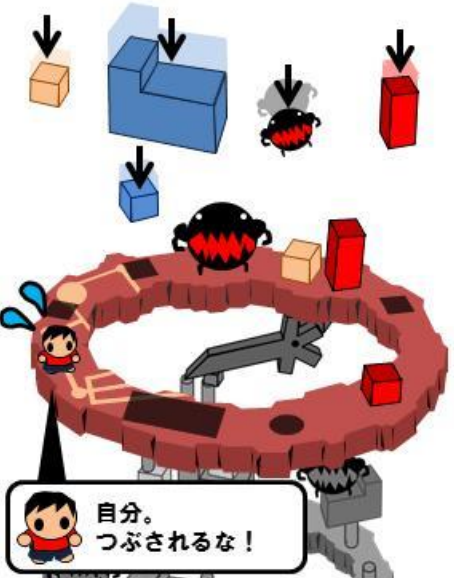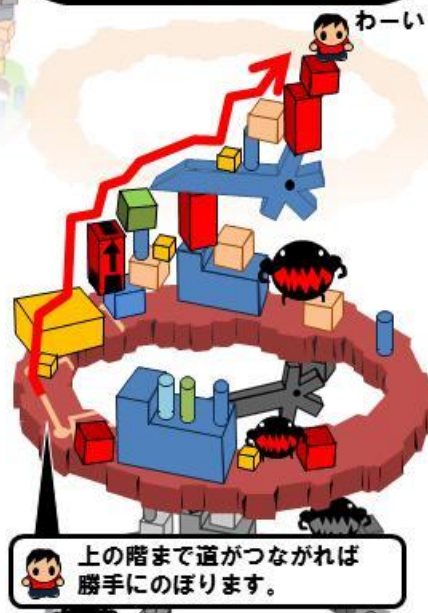
Positive

Kaido
The basic idea is excellent. It looks good as a visual. There seems to be some problems in actually playing games, but I thought that there is a possibility of ripping.

Yanase
It seems that the task of making the tower and the element of protecting the hero make a dilemma well. However, it seemed that "dead lock" easily occurred, so it was still better if there was an idea to overcome it.

Negative

Baba
Does the character automatically avoid it to some extent?
Even if there is nothing to do by player it will be stressful, if player can control by themself it will be work. The picture is cute.

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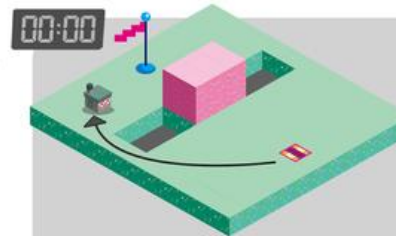
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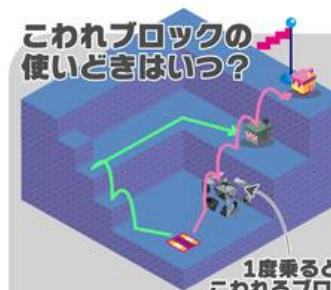
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Reserch & Development

Control of Enemies' Behaviors According to the Player's Field of View in VR Games

Koji Mikami

Tokyo University of Technology

Motivation

- Many previous research indicate that player can see only limited area even though the game has extra wide screen such as VR
    - 40 to 50 degree is effective visual area (Seya 2010, Spherical screen)
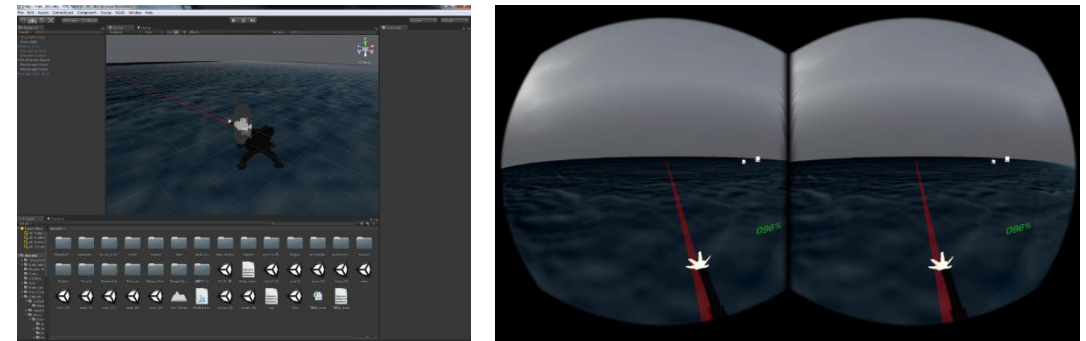   - 44 to 50 degree is effective visual area (Sugai 2014, HMD)

This means…

In VR game, enemies sometime surround player and attack from invisible or unconscious area

Problem

This unexpected "damage" or "death" from invisible or unconscious area cause disappointment of players
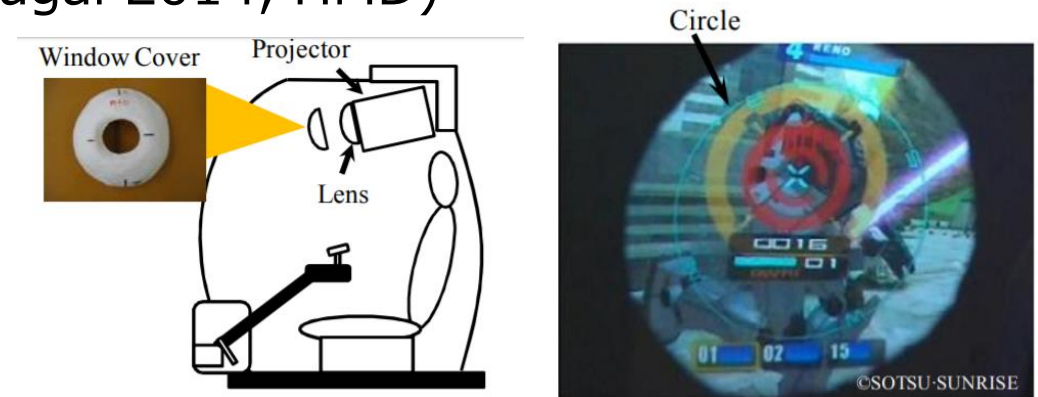
Seya et al. (2010)

Sugai et al. (2014)

Our Method

- Control enemies' behaviors according to player's FoV
  - Prepare 3 area
    - "Response Area", "Recognition Area" and "Peripheral Area"
  - Changeable parameters
    - "hit rate", "frequency of shot" and "time of cover"

Peripheral Area
(50 degree+)

Recognition Area
(40-50 degree)

Response Area
(-40 degree)