

A Systematic Approach to Evaluate Player's Experience

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Bio



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Opportunity



Player/Consumer

Trust
Qualified Service

Value Clarification
Choice Criteria

Scientific
Evaluation
System

Knowledge Expert
Designer/Developer

Researcher

Design Guideline



Challenges

- * Lack of assessment tools to analyze serious games
- * Insufficient knowledge on their impact on players
- * Difficult to prove the real life value beyond the game
- * Academically game research is still at its infancy
- * Games are complex objects to study
- * Small budget and time constraints
- * Interdisciplinary Collaboration

Mitgutsch, K. & Alvarado, N. (2012). Purposeful by Design. A Serious Game Design Assessment Model. FDG'12 Proceedings of the International Conference on the Foundations of Digital Games. ACM New York, NY, USA p. 121-128.

Harteveld, C. (2010). "Triadic Game Evaluation: A Framework for Assessing Games with a Serious Purpose", Workshop of the ACM SIGCHI Symposium on Engineering Interactive Computing Systems.

Design Framework

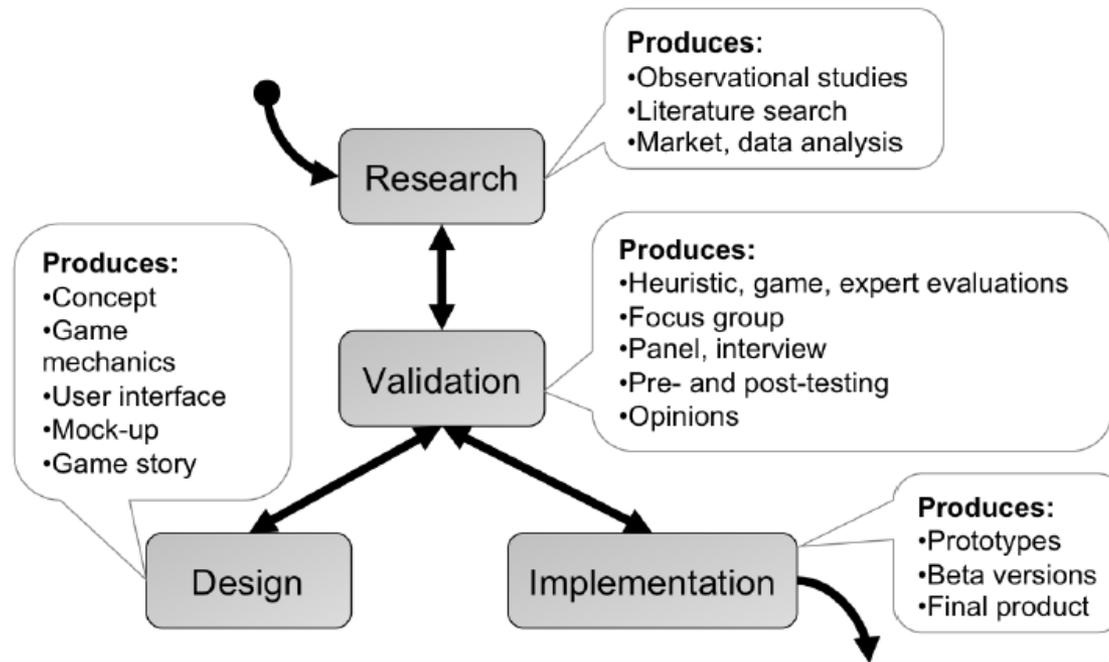


Figure 13. The validation phase is crucial in moving between research, design, and implementation.

Design Assessment Framework

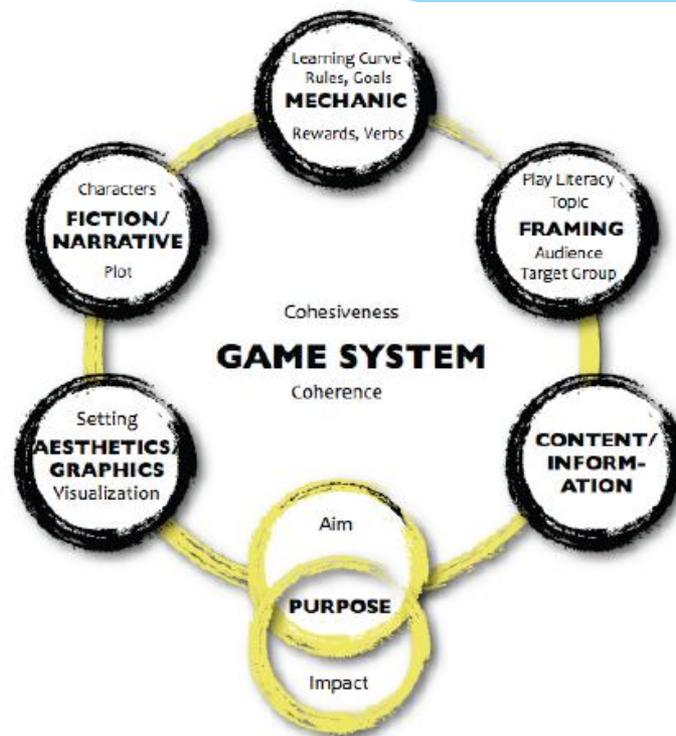


Figure 1: Serious Game Design Assessment Framework

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A Framework for Assessing Games with a Serious Purpose

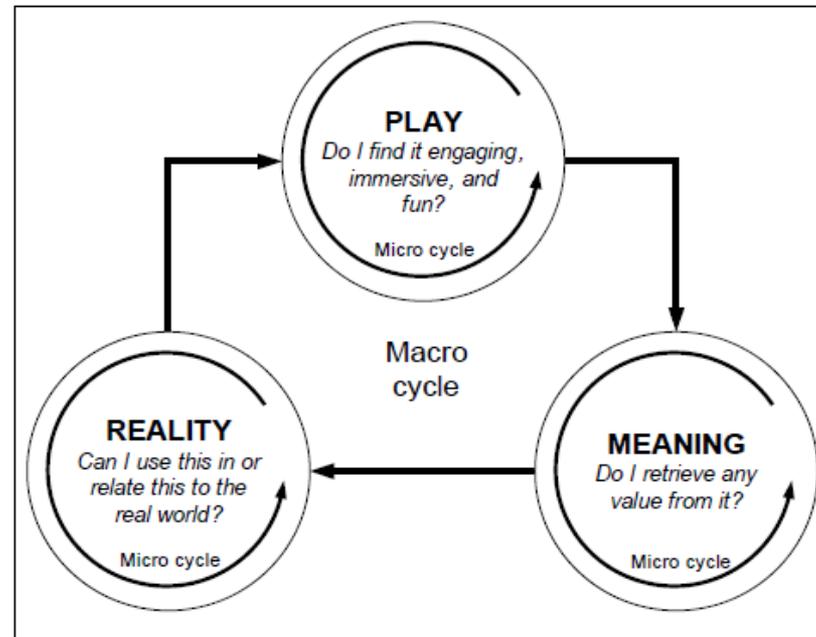


Figure 1. The sensemaking cycle

Harteveld, C. (2010). "Triadic Game Evaluation: A Framework for Assessing Games with a Serious Purpose", Workshop of the ACM SIGCHI Symposium on Engineering Interactive Computing Systems.

Dimensions of Analysis

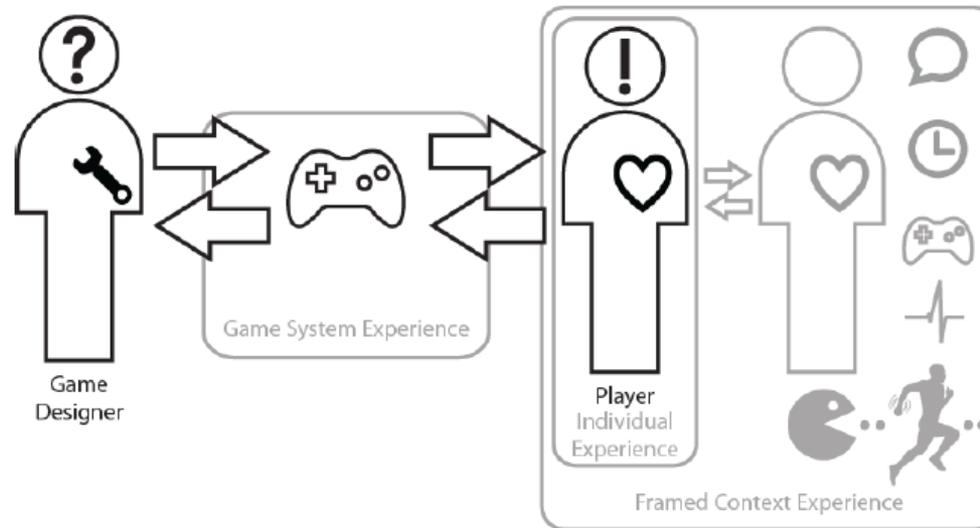


Figure 1. Three methodological frames of gameplay experience in the game development process. For example, game system experience methods are concerned with functional testing of the game; player experience methods ideally use sensor technology (or usability and playtesting) to assess emotion and enable player-game interaction, and finally logging metrics methods (among others) enable assessing game context experience.

Two Different Effect Models for Players' Experience Evaluation

Media Effect Model

- Players as passive recipients
- It is assumed that all players will experience the same effect
- Game contents determine players' experience
- Instrumental perspective
- Analysis focus to contents

Co-Creation Model

- Play experience co-created by players' interactive engagement
- According to players' behaviors, different results are possible
- Frames of subjective meaning determine players' experience
- Ecological perspective
- Analysis focus to players' behavior and environmental affordances

Levels of Analysis

5. Environmental Question

- Cultural, Contextual, Ecological
- Changes of Play Experience according to Various Contexts

4. Practical Question

- Aesthetics and Experiential
- Experiential Responses of Game Players

3. Operational Question

- Dynamics
- Function of activities, Relationship between Variables, Interaction

2. Constitutional question

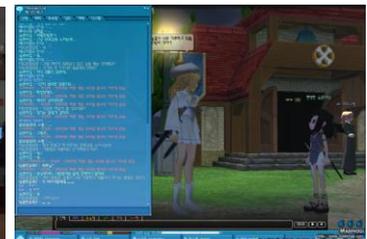
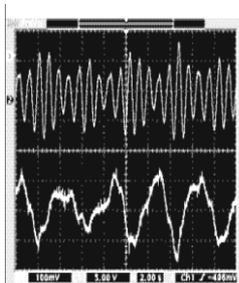
- Mechanics
- Structures, Components, Factors of Game System

1. Substantial question

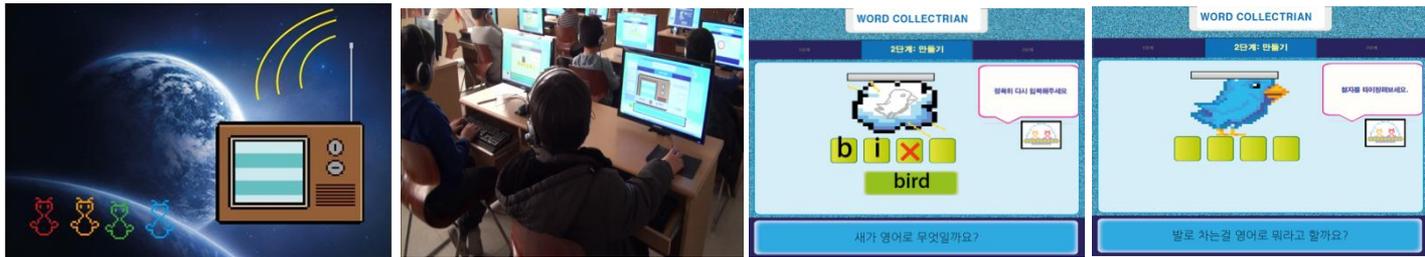
- Philosophical , Conceptual
- What is Play? What is Fun?

Experience Evaluation Methodology

Psychophysiological Testing	Behavior Observation	System Embedded Assessment
EMG EEG fMRI PET fNIR GSR HR	Eye-tracker Camera recording Interview Focus Group Survey / Scale / Test Q methodology	Game Metrics Behavior Assessment (Log File) Player Modeling (Game AI)



Case 1 - Word Collectrian : Affordance Analysis



Academic Achievement
(test)

- Word-Color Match
- Spelling Check
- Verb Multiple Choice

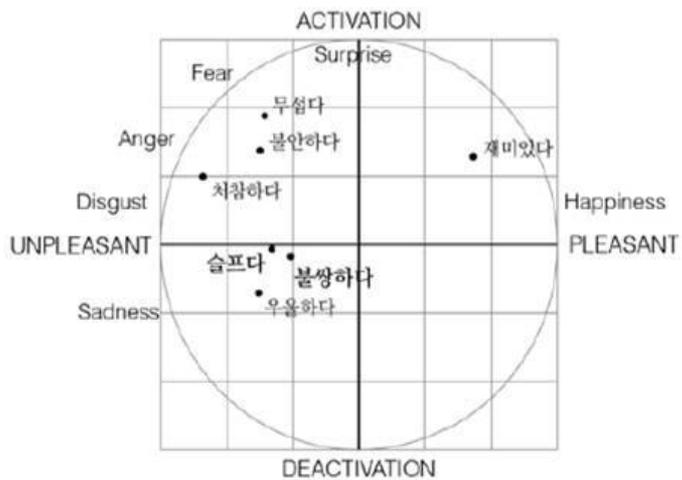
Fun & Education
(survey)

- Interest in learning process
- Helpfulness of learning process

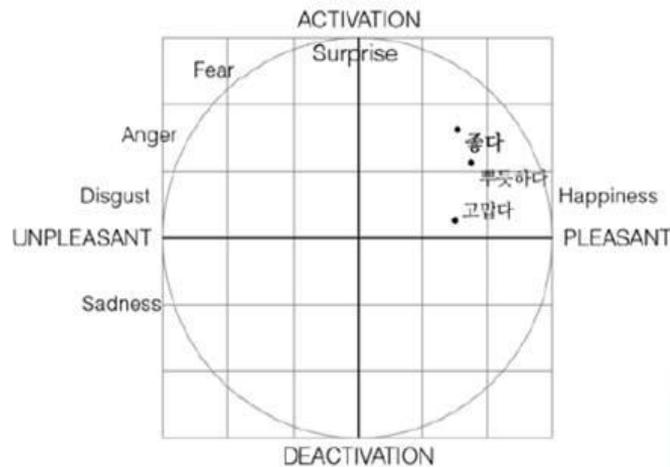
Behavior observation
(camera recording & interview)

- Peer interaction in classroom
- Individual different in digital literacy
- Emotional engagement, Competition

Case 2 - Nanu Planet : Emotion & Cultural Difference



a) The background history of DMZ

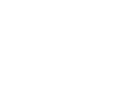


b) The peaceful way of conflict solution



Case 3 - Mabinogi : Player's Diverse Behavior Patterns

Self-Enhancer

Motto	Diligence, Effort I don't want to have a social burden	
Major game behaviors	Do not bother others single play tendencies	
Core values	Learning, Achievement, Growth Self-respect	
Psychological characteristics	Setting goals is important Game= tasks that needs to be done Do not enjoy relationships have strict standard to evaluate self Easily feel inferiority often feels guilty because they believes in strictly following social norms	

Relation Oriented

Motto	Enjoying our life freely!	
Major game behaviors	Chatting with others and sharing their thoughts.	
Core values	Sympathy, Communication, Intimacy, Bohemian style, Freedom	
Psychological characteristics	Forms relationships with diverse people Freely acts without caring other's perceptions when overwhelmed with much responsibility, just leaves	

Social Contributor

Motto	Together, we can change the world.	
Major game behaviors	Possess affluent social capitals in the online game world	
Core values	Social Values Community Fidelity Social responsibility	
Psychological characteristics	Contributes to the community affectionate towards newcomers like to help beginners	

Trend Expressionist

Motto	I am different!	
Major game behaviors	Engage not only in game activities but also fan art and other creative activities to pursue their own images	
Core values	Belongingness, Brand, Trend Self expression fun	
Psychological characteristics	Try hard to look cool Becomes a trendsetter Aware of other's perceptions Pursue self satisfaction, so sometimes overlook social norms or rules.	

Isolate Antisocial

Motto	Just leave me alone.	
Major game behaviors	Interact with only the game and not other players sometimes engage in negative interactions with others to receive attention.	
Core values	Escape from boredom Manipulation of self and others	
Psychological characteristics	Repressed, isolated Afraid of revealing themselves sometimes act anti-socially as a result of frustration or anger from relationships	

Self Interest

Motto	Solely focus on my desires	
Major game behaviors	Pursue personal profit through game systems and social relationships Do not spend much time or money	
Core values	Personal gain, Profit Competition, Power, Money Social recognition	
Psychological characteristics	Use game world for gaining profit Strongly desire social recognition Diligent and active but are not socially responsible Ignore rules and social standards for self-interest	

Case 4 - Mabinogi

: Changes of Behavior Pattern over Time

Development Types	Achievement-oriented development	Control-oriented development	Relational development
Present self	Achievement oriented	Control and strategy oriented	Relationship oriented
Meaning of the online game	A place for personal growth	A place for problem solving	A place to form community
Value	Growth	Planning	Relationship
			
Past self	Follow the majority	Enjoy the game	Immerse in the game Itself
Meaning of the online game	A place to escape from reality and follow majority or trend	A place to 'just play'	A private place for myself
Value	Conformity	Activity	Isolation

Doh, Y. Y., & Whang, S-M. (2013). From separation to integration : Identity development of Korean adult players in online game world. Games and Culture (in press)

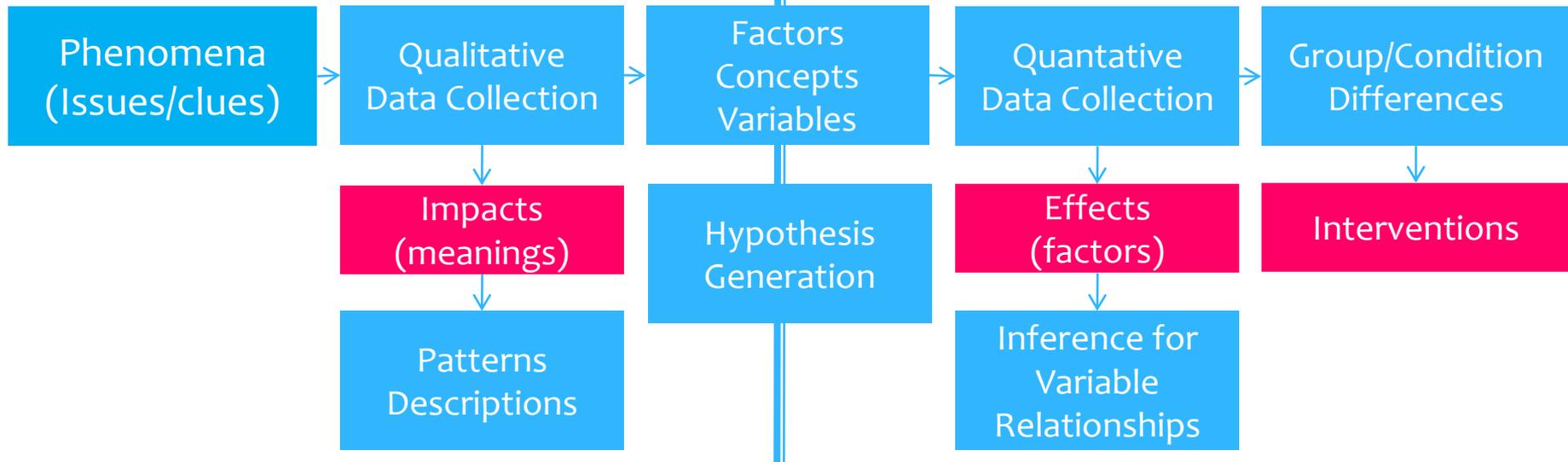
Analysis Flow

Step 1 – Ecological Context

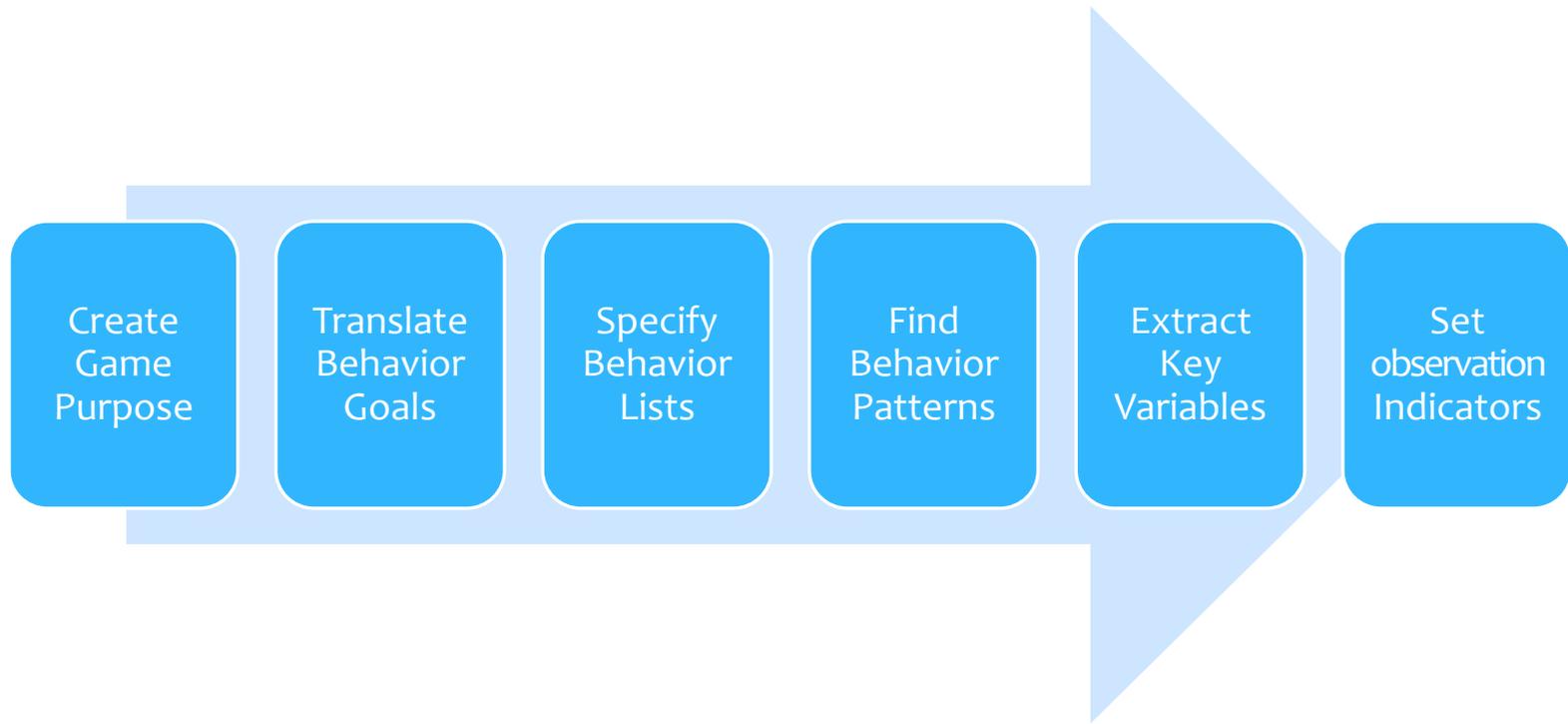
Step 2 – Non- Ecological Context

Hypothesis Finding

Hypothesis Testing



Setting the Evaluation Criteria



Case 5 - Mabinogi

: Behavior Importance Extraction

Table1. The distribution of card sorting

	Disagree			← Neutral →			Agree		
Score	1	2	3	4	5	6	7	8	9
Card Number	3	5	7	8	11	8	7	5	3

Table2. Groups of the Clustering Algorithms

Group	Number of Behavioral Statements	Features of Experience
1	12, 23, 35, 45	Constructing Personal Identity
2	7, 57	Pride and Understanding Others
3	36, 37	Escape from Reality and Relations

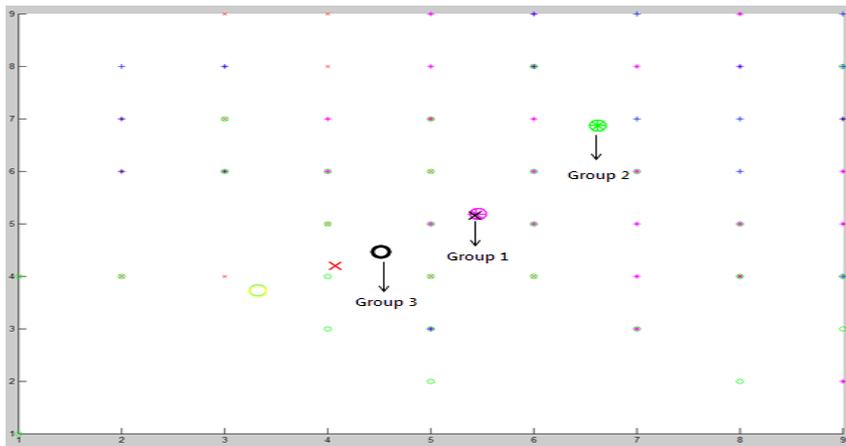
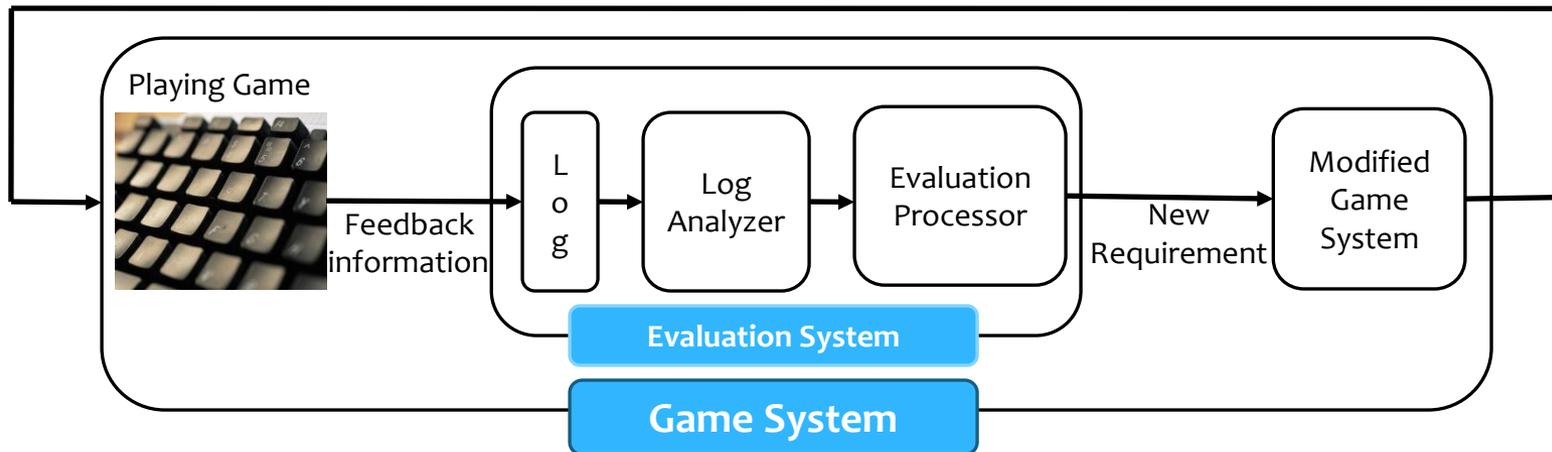


Figure1. Result of the Clustering Algorithm

Table3. Behavioral Statements of Three Groups

Group	Number of Behavioral Statement	Content
1	12	I do not experience any special feelings different from real life in online game world
	23	I have my own self-image and style that others recognize
	35	I would rather play solo than on a team
	45	I am recognized for my unique capacity differentiating from other players
2	7	I feel proud of my character which grows stronger
	57	I grasp others' personalities and lifestyles through chatting with them or observing their behaviors
3	36	If another character asks for a help, I avoid them
	37	I can do anything that I want to do in online game world, unlike in the real world

Case 6 : Serious Game Assessment Model Based on Player's Feedback



Vision for Framework of Evaluation & Supply Chain System

