

Sangkan Hurip, a Board Game Design Project Based on Kolenjer Astrological Math Narratives

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Abstract. The development of board games types are wide consist multi-disciplinary aspects such as culture, history, war simulation, role playing game, meta-economics transactions even ethnography and much more. Games' been one of most popular media that grown rapidly as same as other popular media such as movies and animations. Board games itself is some kind of traditional games that played on table top by equipped with several items like cards, token and other visual assets arranged and managed with set of rules. Since games consist cultural and ethnographical aspects, this research focused in how a board game could use to promote traditional artifact like Kolenjer, an astrological tool used by Sundanese Baduy society, as the part of Sundanese ethnicity. Due the scarcity of the artifact and other researchers had difficulties to connected with primary source, it is most unlikely for the research to gain more information about more functions and how the artifact work properly. By using qualitative research tools such as literacy study and interpretation method, the research finally reinvents Kolenjer's function to counts and predicts someone fate with traditional mathematical method for a game. Finally, the obtained data elaborated with game study theories and adaptation theory used to create an enjoyable board game's project based on Kolenjer function.

Keywords: *Kolenjer, Board Game, Ethno-identity, Local Geniuses, Baduy Society*

1 Introduction

Kolenjer is a traditional artifact that made from a piece of wood board with special symbols and icons and used in Baduy society to predict someone's lucks by counting birth dates and special dates. *Kolenjer*'s functions usually believed will affect someone decisions to made their move in order to do something important such as farming, travelling, trading or held a wedding party. The artifact itself had relation with ancient Sundanese astrology. And the counting process had its own formula that only accessed by 'special people' in the Baduy society [1].

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Board game is game that played in traditional ways, where the game played on a board placed at a table with dices, several pieces and cards. The game play of this kind of game usually arranged by a set of rules. Some of old board games came from ancient artifact which related to religious and spiritual activity, for example, the ladder and snake that originally named *vaikuntapaali*, which came from India as a game and a media to learn karma in Hinduism for children and youngsters [2, 3].

Based on ladder and snake origins, this research tries to make a study regarding adapting Kolenjer's function into a modern media such as board game. The study of the artifact and the adaptation about this project can be found in previously research (D.K Aditya, 2017) [4]. In this time, the research had move forward not only make adaptation concept, but also developing the prototype of the game.

2 Literature Review

2.1 Game Culture

This research is using adaptation theory and game study for analysis. The adaptation that this project's use is media's shifting according to Linda Hutcheon [5]. Meanwhile, for game study the research used what Larrisa Hjorth and Dean Chan said about Game Culture. Their perspectives about games and cultures are suitable to analyze the relations between games and cultures as a system of meanings that focused on symbols and actions that tied in communication concept [3]. They also split games into two major understandings, 1) game as gameplay itself and 2) games as representation of sign systems and behavior for its players' life aspects.

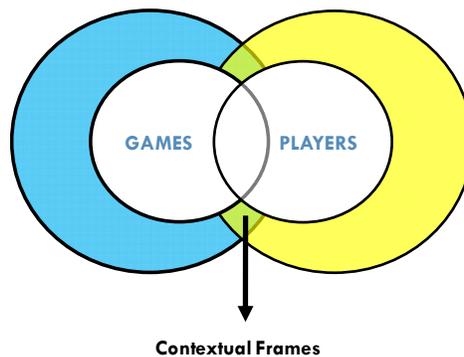


Fig. 1. Contextual frames.

2.2 Kolenjer's Functions

Kolenjer basic function is to count *naptu*. *Naptu* itself could describe as time. There are three kinds of *naptu* that kolenjer counts: 1) *Naptu tanggal*, to count dates 2) *Naptu poe* to count days and 3) *Naptu wanci* to count someone's luck. Kolenjer have 4 kind of symbols which represents wealthy, safety, calamity and death. Each symbols will appear as the results from the *naptu*'s counting. Soon after we've got the symbols, the key masters told to us whether, which the date that should take or avoid to do our will.

This belief came from the *Sunda Wiwitan*, the ancient religion that grew in West Java, especially in Baduy society. They believe that something good or bad could happen in daily life. In order to avoid bad luck or calamity, the society usually depend on the Kolenjer's

counting and also have faith that their life's purpose is to embodied welfare in this world through *tapa* and *pikukuh*. This concept tied to the idea that Baduy's people surrender to the Almighty's will that arrange and have control of human's life and entire universe. At the same time, they believe that they must held their commitment to fulfil their responsibilities that they must do actively and diligently [1, 4].

The artifact's functions have similarity with book of *primbon* from Javanese people. They have the counting systems to predict good or bad luck for someone based from his or her birth date. This astrology system is a part of the agricultural societies in Indonesia, because they usually count the periods of cultivations [1, 4].

3 Methodology

Qualitative method was based for this research, especially for data collecting and analyzing the data. Due to the limitation of time and the distance, this research gain data about Kolenjer by using literacy, journals and other researches that study the same artifact. The problem that this research faced is similar: we couldn't track any person or resource that could explain the Kolenjer's counting methods because of its scarcity [1, 4].

Observation was used for making a good game play. The research learned from some board game's rules and some board game's assets in order to develop board game concepts not only the suitable visual language but also for designing the game's aesthetics and dramatics' elements. The game critics used to analyze other board games, game play and its aspects, then the research made the game plan and rough sketches [4].

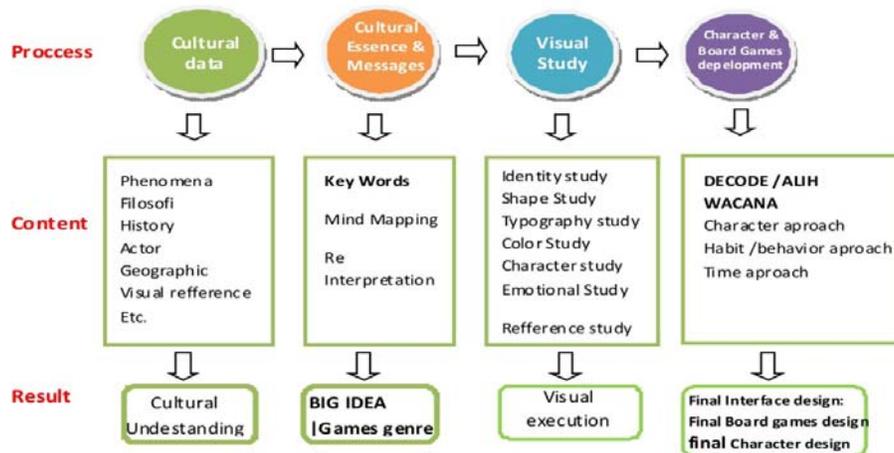


Fig. 2. The flow chart of Adaptation Process.

4 Discussions

4.1 Project's Prototype

Sangkan Hurip (Wheel of Life) board game prototype is the result of the Kolenjer's reinterpretation research. The game itself adopted the astrological formula that came from the Kolenjer's origin. The adaptation purpose was merely brought the Kolenjer's functions from sacred things to profane area, so the audience or the game's players could play and

learn about the artifact without worrying about the spiritual aspect within. In this table top game version, the Kolenjer-like artifact created as the same purpose as the original artifact, to count and to predict whether a player get bad luck or good luck, which also considers as reward and punishment element in this game [4].

4.2 Design Process

The game’s designing process can be seen in flowchart below [6, 7]:

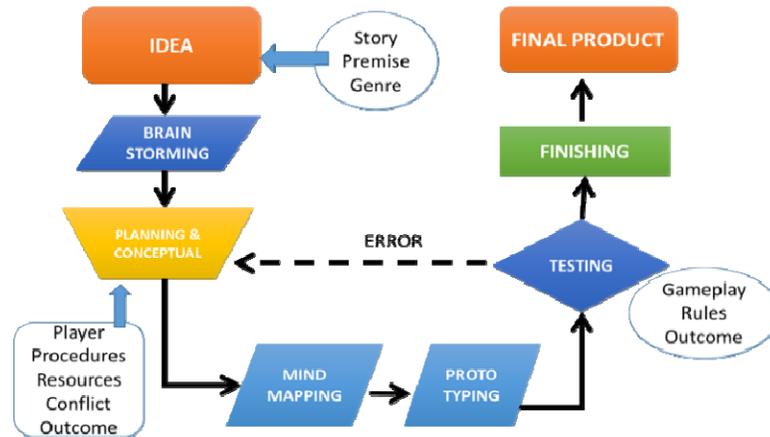


Fig. 2. The process of game design

4.3 Games’ Concept

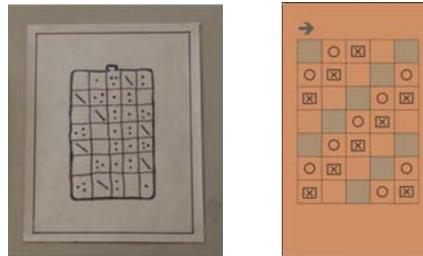


Fig.3. Early sketch of reimaged Kolenjer board

As a visual communication media, this board game also has a message and communication concept. The message of the game was “to introduce”, which means by playing this game, the players will play about Kolenjer function and how Baduy society put their faith on it. Meanwhile, the other message is “to recount”, which means the counting process that adapted from Kolenjer was not sacred for common people but enjoyable for a gaming elements.

The main procedure or the game’s core game play is counting player’s luck with tools that the projects adapt from Kolenjer. The steps of these procedures are:

1. Before playing the game all players must roll dices to set players’ date and day of birth.
2. The sums of numbers of date and day of birth will add to the numbers of date missions that shown in mission cards. And the results will divide with the number of day

mission which add or multiply with variable numbers. The formula of counting process in the games is:

[Birth Dates + Birth Days+ Missinn Dates]

[Mission Days] +/x N

Notes:

N = Variable number that shown in mission card

The number of dates are 30 [due to the dice]

The number days are 6 [due to the dice]

4.3.1 The Games Project's Descriptions

- Title: *Sangkan Hurip* (Wheel of Life)
- Tagline: Everything depends on your luck
- Genre: Turn base - race game
- Target Audience: 12+
- Plays like: *Monopoly* and *Games of Life*
- Goals: Reach the glory and become a village leader through the struggle of fate
- Major Mechanics:
 - The game played in 40x40cm square maps with three different levels/platforms
 - The players' turns decided by roll a dice. Each player have their own dice
 - There are several types of cards that will use in this game (see game's assets sections for the explanations)
- Setting: In a deep village somewhere in West Java
- Setting reference:



Fig. 4. Baduy's Village (Source: <https://www.liputan6.com/lifestyle/read/2241391/meneropong-suku-baduy-dari-langit>)

- Key Experience:
 - The players could have different birthdate which decided with dices. So every player will feel different fate every time they play this game.
 - The fate's counting process will decide reward or punishment that will received by the players.
 - The player that have fulfil the term of missions allow to entering the next level in order to finish the game.

4.3.2 The Games Assets

The main assets of the games are the board made based on a Baduy's village. The game's map divided into three platforms or levels, to enter the inner level players must finish some missions first. The player who reach the inner level at the center of this field will be the winner of this game.



Fig. 5. The game board.

The kolenjer's replica uses to count the prediction for player's fate in the game, just like the original artifact.



Fig. 6. Kolenjer board's replica (left), character's card, and mission card.

There are four character's card that could use by the players. Each characters has its special abilities.

There are several mission cards that players must accomplished by count the numbers of dates that shown in the cards with characters' birth date with Kolenjer. Each mission has its challenge that make the game more enjoyable.

Fate cards are draw when players get their number of fate as the result from the counting process.

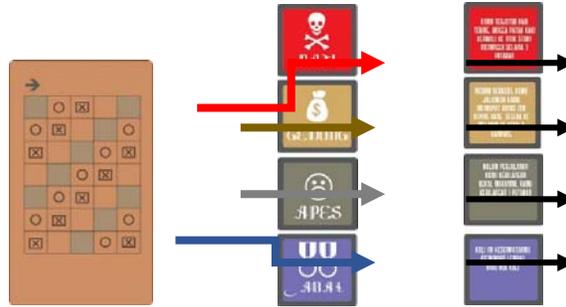


Fig. 7. Fate's cards.

Money cards are the resources for this game. At the end of the game the higher amount of the money cards is one of the term and conditions for the winner as a part of his/her path to glory.



Fig. 8. Money cards and characters' tokens.

Like other board games, this game also has players' tokens. Just like the character's cards, the token shows the character's profile on it.

There are 4 dices use for characters, one dices for the key master. This game use the commons 6 sides squares dice.



Fig. 9. Dices.

5 Conclusions

The explanations above have described to us how the adaptation theory applied in game's design. This research shown how an ancient artifact like Kolenjer could be adapted and recreated into a new media, like board game, by adding the entertaining aspects that fun and challenging without leave the moral values and the local genius and wisdom behind.

The adaptation for narration that applied in the research and projects could be described as a heritage conservation strategy while also updating the way to communicate the

traditional values to modern society, especially the young generations nowadays. The further step of the adaptation is recreating the way to sending its messages.

The research and the project still in explorations and need more development in the process. Hopefully, it can trigger another projects to adapt traditional cultures into modern games or other popular cultures that are likable to younger generations.

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