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Research article

The Development of a Game Design for Wayang Beber Pacitan

Aditya Nirwana, Didit Prasetyo Nugroho

Prodi Desain Komunikasi Visual, Fakultas Sains dan Teknologi, Universitas Ma Chung

ORCID
Aditya Nirwana: https://orcid.org/0000-00002-5300-9143

Abstract.
Even though traditional arts and culture look 'exotic' and often contribute to regional income and foreign exchange through tourism, they are increasingly marginalized and subdued by modernity. The Conference of Indonesian Youth Diaspora in 2018 declared the need for cultural preservation and prioritization of national identity through the development of the creative economy. There is an opportunity for collaboration between subsectors as part of this. Even though the game industry ecosystem is not yet stable, 12,441 companies in this subsector are driven by young people (20-24 years old), which means they have great potential for the next decade. The 'encounter' of game developers with traditional art studios in a development team could produce disruptive innovations in the form of game products based on traditional arts and culture. This development research was the first step in that direction. The purpose of this study was to develop a concept and design of a role-playing game story of Jaka Kembang Kuning (Wayang Beber Pacitan). By using a mixed methods research and development approach, a game concept document was developed as a game concept, and a game design document (GDD) as the game design. Validation tests of the GDD were carried out which indicated that the GDD was valid and effective as a design document. This means that the GDD is in accordance with the quality standards of those commonly used by game development companies and therefore it is ready to be used as a foundation for the next stage of development.

Keywords: game design, Wayang Beber, role-playing game, Pacitan

1. INTRODUCTION

The meeting of Indonesian youth and the diaspora community in 2018 in Jakarta to formulate a vision of Indonesia 2045, leaving hope for the quality of human resources, especially youth. This includes strengthening of national identity through national culture, namely: 1) Cultural preservation and priority of national identity in development; 2) Development of a creative economy based on local wisdom; and 3) Educational outputs that are creative, innovative, and globally competitive with roots in regional culture [3].

However, if we look at the current conditions, we will see that there are still many ironies. Although it looks "exotic" and is often a source of regional income and foreign exchange through tourism, traditional arts and culture are increasingly marginalized

Corresponding Author: Nirwana;
email:
aditya.nirwana@machung.ac.id

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and run over by modernity. As a result, traditional artists experience a decline in welfare. Structurally, traditional artists do not have a stage, many of them move to other professions, and in their old age, they often find life difficult [2].

On the other hand, in this creative economy, we still could do co-creation, because the game developer's "encounter" with the traditional art community in a development team, has the opportunity to produce "disruptive innovation", in the form of game products based on traditional arts and culture. This is an effort to integrate existing resources to increase competitive offerings and to reduce production costs.

For this reason, we developed a Role-Playing Game (RPG) on the Android platform for Wayang Beber Pacitan (WBP), in the story of Jaka Kembang Kuning (JKK). Our selection of the Role-Playing Game (RPG) genre is based on the fluid nature of this genre, which allows anything to happen, as well as the suitability of the JKK story plot with the features of RPGs. In this development research, we will focus on concept and design development, with the outputs in the form of a Game Concept Document (GCD) and Game Design Document (GDD).

2. METHOD

To achieve these goals, in general, the research method used in this study is the mix method, because the product design hypothesis uses qualitative data and qualitative data analysis. Meanwhile, quantitative data, quantitative data analysis, and quantitative instruments such as a Likert scale or questionnaire were used at the product trial stage. In particular, the method used in this research is the Research & Development (RnD) method, which is a research method that produces a product (either a model or a module) as an output. Research and development methods are used to find a model or develop a model [4].

To produce the initial draft, it is necessary to collect data. This research used observation and literature study. GCD and GDD draft will be discussed in a Focus Group Discussion (FGD) with experts, practitioners, and respondents, who are the target audience of the game to be designed. With regards to experts and practitioners, we collaborate with two stakeholders, namely Game Dev Malang (GDM) and the Museum Panji Malang. After the FGD, there was an evaluation and revision stage, which was then followed by a validation process by Game Developer Malang. The draft of the development of the GCD and GDD models resulting from the revision of the FGD, and validation (expert test) was tested on a limited basis by 50 respondents. This test of
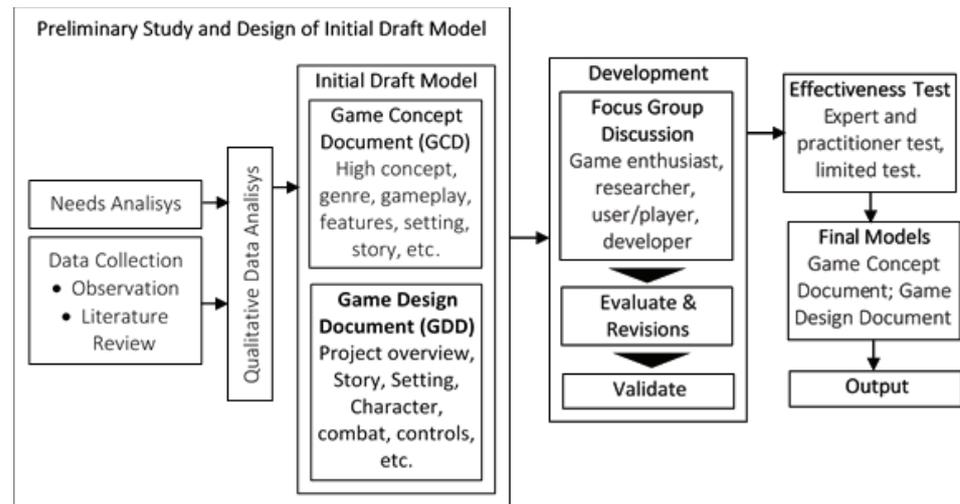
Figure 1: Research and development flowchart.

effectiveness used a question instrument and a Likert scale, with the principle of game design as a variable as stated by [1].

3. FINDINGS AND DISCUSSION

3.1. Data Collection, Analysis, and Concept Formulation

We conducted this study during the COVID-19 pandemic when physical travel was limited. We observed the reliefs of Candi Jago in Malang Regency to get an overview of the characteristics of the fictional elements of traditional stories. From the refliefs of Tantri Kamandaka, Kunjarakarna, Aridharma, Parhayajna, Kresnayana, and Arjunawiwaha, we get the characteristics of the narrative and visual style. We also interviewed officers who were there.

We also observed artifacts from the Wayang Beber Pacitan collection of the Panji Museum in Malang as many as 6 rolls, 24 frames. This was done to conduct in-depth observations of the story of Jaka Kembang Kuning. We also observed recordings of two WBP performances, namely the performance of WBP-JKK by *dhalang* Rudhi Prasetyo in The Panji/Inao Tradition in Southeast Asia event, which was held by SEAMEO SPAFA (Southeast Asian Regional Center for Archeology and Fine Arts, under Southeast Asia). Asian Ministers of Education Organization) in Bangkok, Thailand, on March 5, 2013, as well as the WBP performance by *dhalang* Ki Supani Guna Dharma which was held at the National Panji Festival in Pacitan on December 6, 2020. From both, we got data in the form of the storyline of WBP JKK which comes from the *dhalang* speech.

In addition to making observations, we also conducted a literature study of the written sources of the WBP-JKK manuscript by R.M. Sayid regarding the Pakem Wayang Beber Lampahan Jaka Kembang Kuning [5]. From the stories obtained from observations, *dhalang* speech, and written sources, we triangulated the data, so that the JKK story was complete and authentic. By considering the characteristics of the narrative and visual style, we formulated the concept of this game. Concepts in the context of game development, according to Bates are referred to as "high concepts" [1]. So, the high concept is.

"Adventure with Jaka and his friends exploring Jawadwipa in the 11th-century era of the Kadiri kingdom, to find Sekartaji who fled from the tyrannical king of Klana and then won the war against his kingdom. Together with Tawangalun and Naladerma, as well as several characters who might join a party, you will explore, fighting against Bromocora (robbers), monsters, and spirits. Get EXP, gold, skills (physical, magical), heirloom weapons, amulets, and magic potions after you defeat them and unlock new maps. Keep upgrading your abilities to defeat bosses in each level-update (map), and to defeat the Klana".

3.2. Initial Draft Model

3.2.1. Game Concept Document (GCD) and Game Design Document (GDD)

The models are Game Concept Document (GCD) and Game Design Document (GDD), which are the outputs of the game concept development and game design development processes, both of which, in the sense of [1], are pre-production processes of game development. In this case, Bates has provided a systematic method of developing games from pre-production to post-production. The components of GCD and GDD will be variables in the data that has been collected, and a reference in doing data reduction. These components can be seen in table 1. The implementation of the components, along with the formulation of the initial draft model, can be seen in tables 1.

Once compiled, the GCD was discussed in a wider forum in a Focus Group Discussion (FGD). The FGD was conducted with 8 participants, namely, lead researcher, research members, 2 professional game developer representatives (GameDev Malang/GDM), 1 academician with game development expertise, 1 intellectual, and curator of the Museum Panji Malang, and 2 gamers. In the FGD, a focused discussion was held regarding the GCD that had been prepared. In essence, the concept that has been

TABLE 1: Game Concept Document (GCD).

1. High Concept
Adventure with Jaka and his friends exploring Jawadwipa in the 11th-century era of the Kadiri kingdom, to find Sekartaji—who has fled from the tyrannical king of Klana—and then wins the war against his kingdom, *etc.*.
2. Genre
Jenggala Warrior is a 2D Role-Playing Game (RPG), with 2D a top-down perspective in adventure/exploration mode, and 2D in battle/combat mode. Bright colors in game art, cartoon style in architecture and environment; as well as manga cartoons on characters (Ghibli manga-style). The use of 2D mode is intended because... (etc...).
3. Gameplay ...
4. Features ...
5. Setting ...
6. Story ...
7. Target Audience ...
8. Hardware Platform...
9. Schedule & Budget....
10. Competitive Analysis ...
11. Team ...

compiled is very possible to be realized as a prototype. In the end, the FGDs did more brainstorming in the development of GDD. Brainstorming is directed according to the components in GDD but focuses more on core parts such as project overview, Combat Interface, and Detailed Level/Mission Descriptions. In this activity, it was also agreed that the game to be designed was titled Jenggala Warrior.

3.3. Validation and Effectiveness Test

Validation was carried out to ensure the completeness of the components, both GCD and GDD, as well as the suitability of the contents of the GDD that have been made referring to the Bates model components. Validation was done by interviewing 5 interviewees consisting of 1 professional game developer (GDM), 1 academic with game development expertise, 1 intellectual and curator of the Malang Panji Museum, and 1 professional gamer. Regarding the effectiveness test, [1] reveals the principles that must be considered and carried out in the preparation of the GDD. Some of them include: 1) Availability of feedback channels from players/users to developers; 2) Moment-to-moment Experiences, there are always interesting things to do in the game; 3) Clear and good writing; 4) Minimizing technical barriers; etc. The survey was conducted with a duration of 1 week (14 -21 December 2020), where respondents were asked to download

GDD via Google Drive, then look at it, and then fill out a questionnaire containing 10 questions for 50 peoples via Google Form.
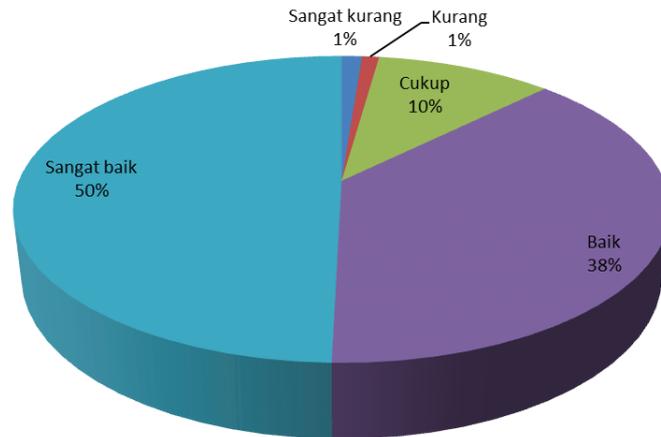

Figure 2: General GDD assessment and evaluation (Score: 86.72).

Quantitative data that has been retrieved is qualified in the range of values 0-19.99 as "very poor"; 20-39.99 as "less"; 40-59.99 as "enough"; 60-79.99 as "good"; and 80-100 as "very good". Starting from the survey results, from the aspect of planning feedback channels for players in GDD, it can be concluded that it is "very good" (score 80,8). The aspect of the experience was rated "very good" (score 91.2). Regarding the clarity of writing in the GDD, it was considered "very good" (score 97.2). In terms of anticipating technical obstacles, it is considered "very good" (score 83.2). The availability of alternative options for players is considered "good" (score 72.8). The aspect of the availability of adequate tutorials and practice modes for novice players is considered "very good" (score 97.2). With regards to the player's point of view and the clarity of goals for each activity/level in the game, this GDD is considered "very good" (score 86). The difficulty level designed in the GDD was rated "very good" (score 89.6). GDD is also considered sufficient to provide information about the workflow and game development time limit until it is completed "very good" (score 81.6). Meanwhile, UI planning in GDD was also considered "very good" (score 87.6). So that the overall GDD that has been designed gets a score of 86.72, or "very good".

4. CONCLUSION

From the validation process, we decided to expand the plot, add information about the delivery platform, and add fictional characters to make it more interesting. After the revision, we tested the effectiveness of GDD through a survey conducted on 50 respondents who were previously asked to download GDD via Google Drive, then

looked at it, and then filled out a questionnaire via Google Form. From the survey results, it was concluded that the GDD that had been designed was valid and effective as a design document. This means that the GDD complies with the game development company's quality standards. This GDD is ready to be used as a foothold in the next stage of game development. Thus, the purpose of this development research has been achieved.

So far, government assistance for the preservation of traditional arts and culture is sustainable innovation. For example, in the form of art performances, festivals, competitions, and so on, with existing markets and existing value chains. The 'encounter' of a game developer with a traditional art studio in a development team will result in disruptive innovation, in the form of game products based on traditional arts and culture. Therefore, in the context of this development research, we propose several suggestions, especially for game developers who will collaborate with communities/traditional art studios so that as much as possible they can maintain the "authenticity" of ancient/traditional literary stories, especially WBP. This is a consideration considering that outside the research team and the GDD development process, there are rejections from several parties because they consider the gamification of ancient literature as a desacralization of traditional art.

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