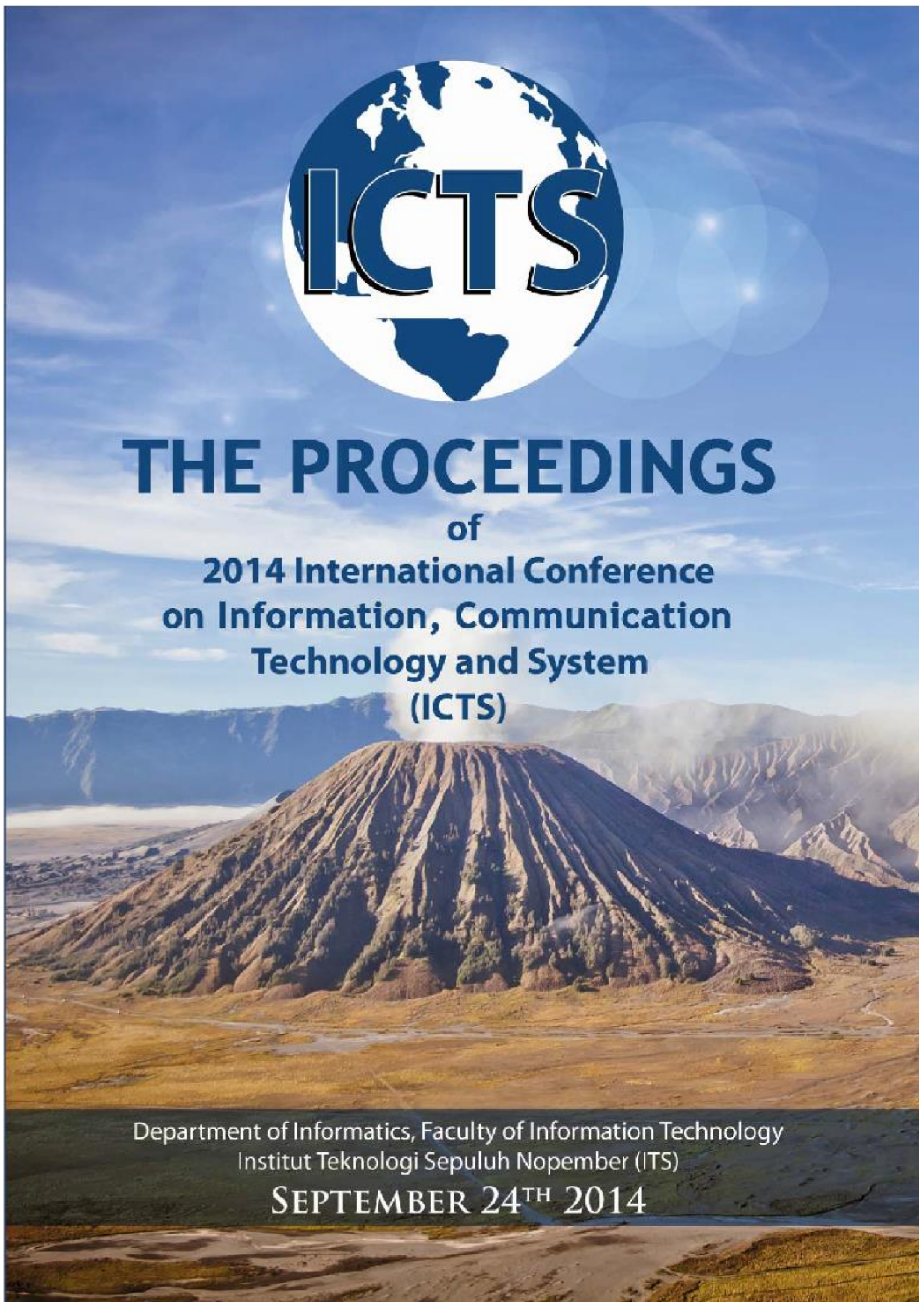

THE PROCEEDINGS

of

2014 International Conference on Information, Communication Technology and System (ICTS)

Department of Informatics, Faculty of Information Technology
Institut Teknologi Sepuluh Nopember (ITS)

SEPTEMBER 24TH 2014

PROCEEDINGS OF

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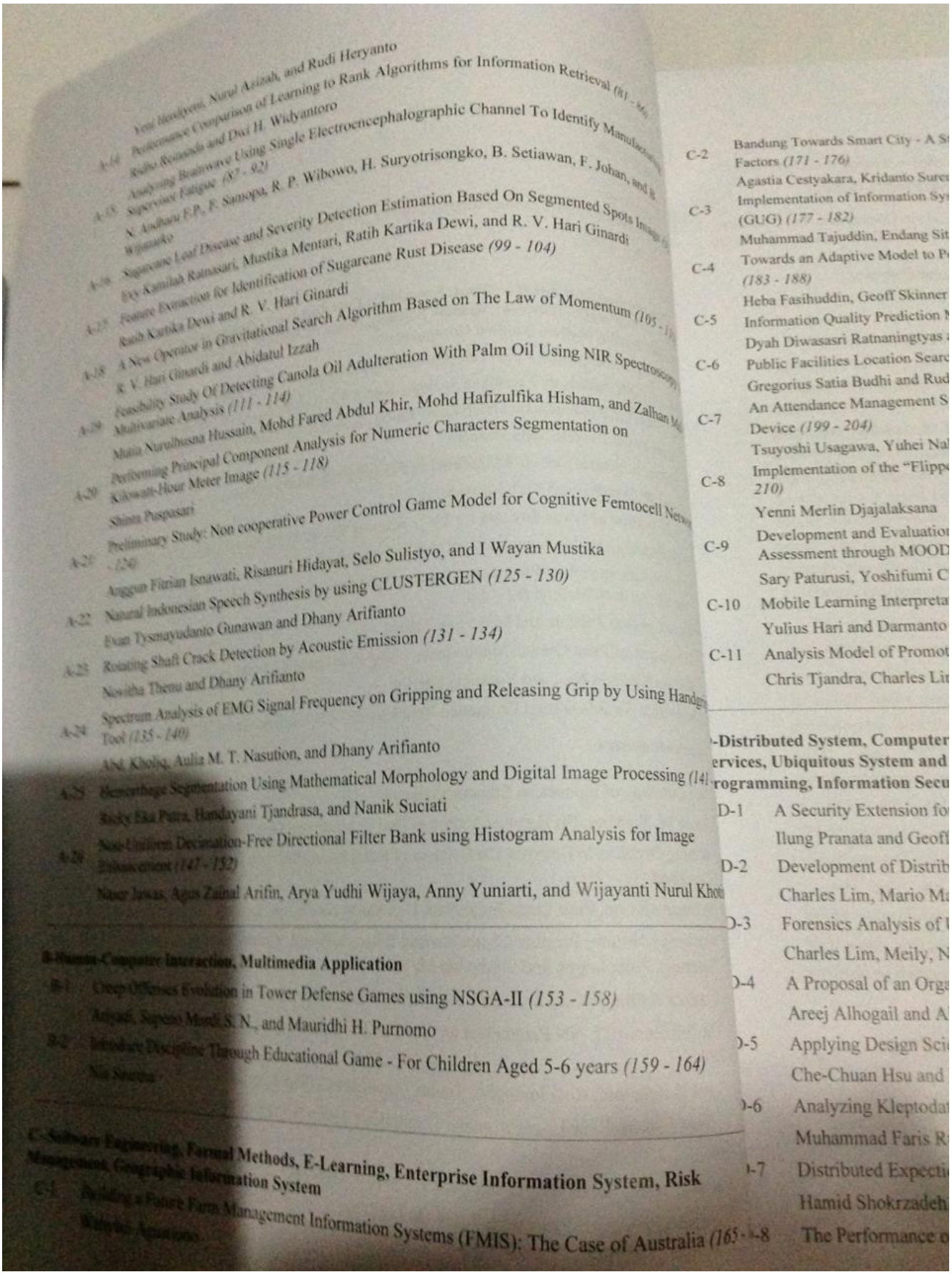

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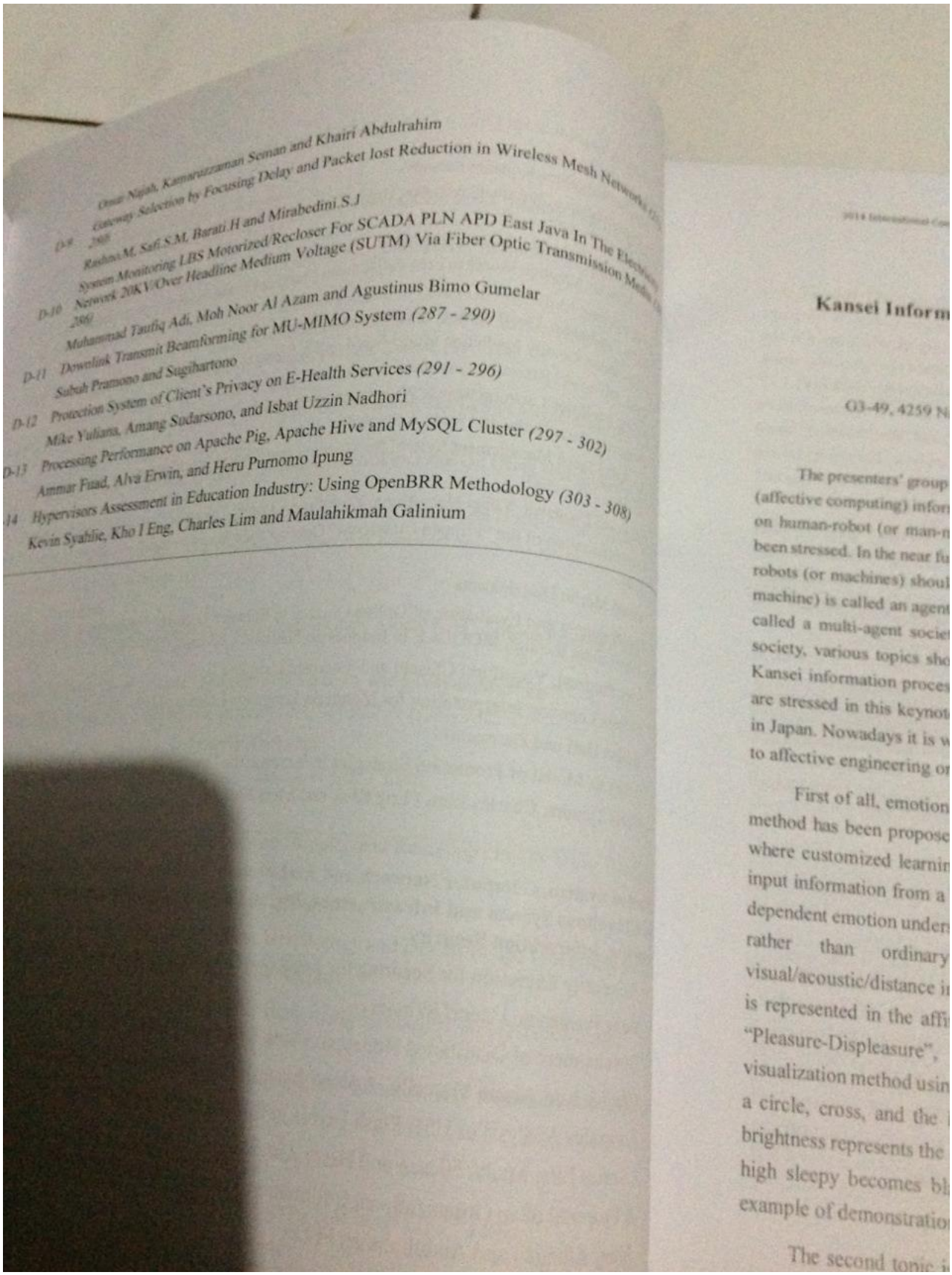

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Introduce Discipline Through Educational Game

For Children Aged 5-6 years

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***Abstract* — Early childhood education, particularly in kindergarten is very important and is one of education that need attention. Based on observations in kindergarten Wildani Surabaya, execution discipline on a child by a teacher or school performed less well. It can be seen from the number of cases of disciplinary violations committed by the child who is left alone by the presence of a teacher or school as children who come late to school, no greeting and returned the greeting, taking out the trash is not in place, a bite to eat at the time of study, out room without permission, no smoothing tools toys after use, do not want to listen to what the teacher says, noisier when learning etc.**

Introduce forms of discipline can be done through educational games. There are 67% of respondents liked the discipline educational games and 33% of respondents do not like the game. Visualization of discipline that can be shown in schools may be cleaning the school garden, cleaning the room and spent the school supplies. With the kindergarten educational games that children can recognize the shape of discipline in a fun way.

Keywords—discipline, educational game, kindergarten

I. INTRODUCTION

Early childhood education, particularly in kindergarten is very important and is one of education that need attention. Early age according to the National Association For The Education Of Young Children (NAEYC) is since children aged 0-8 years and many experts claim that a child's education is the education given to children under 8 years of age is important (Aisyah, 2009).

One of the behavioral attitude that needs to be instilled by parents or teachers to children at an early age is discipline. The discipline of a child reflects the behavior displayed and compliance in carrying out the prescribed rules. Besides, with the discipline of awareness and responsibility of a child will be higher and it will positively affect every thing done by children. Discipline can be regarded as an educational tool for children, because the children can shape attitudes discipline regularly and obey the rules of the existing norms (Rusdinal, and Elizar. 2005).

The Author has made an observations in kindergarten Wildani Surabaya, execution discipline on a child by a teacher or school performed less well. It can be seen from the number of cases of disciplinary violations committed by the child who is left alone by the presence of a teacher or school as children who come late to school, no greeting and returned the greeting, taking out the trash is not in place, a bite to eat at the time of study, out room without permission, no smoothing tools toys after use, do not want to listen to what the teacher says, noisier when learning and others.

Child's world is a world of play, play is a need for mental, physical and psychological development of the child in the future. Play is happiness for children to play because they can express a range of feelings and learn to socialize and adapt to its environment. Currently, there are many varieties and types of games that children can be used as a medium of learning. Ranging from traditional games to modern tech game. One of the games that can be used as a medium of learning is the educational games.

Educational games is an activity that is fun and can be a way or means of education that are educational and beneficial for improving language skills, thinking and hanging out with the environment or to develop a personality and so on. However, developing educational games that are not currently introducing a lot of discipline for children.

Therefore, this study aimed to design educational games that can introduce discipline in children, especially children 5-6 years of age in order to stimulate and provide visualization through educational games about child discipline.

II. LITERATURE REVIEW

A. Discipline

Discipline comes from the same word 'disciple' which means one who learns from or voluntarily follow a leader. According Poerwadarminta in Indonesian Dictionary is an exercise in mental discipline and character with the intention that all the attention was always obey rules at school or in the military or a party. Meanwhile, according Kostelnik et al Developmentally Appropriate Practice in the books, the discipline is a voluntary behavior (without any coercion) that shows the internal order of the rules - the rules. According to them a person can be said to have discipline if they can distinguish or understand the behavior of right and wrong and to obey the rules very well without any reward and punishment. Such an attitude will make a person acceptable to the environment because of the discipline can form

positive social interaction. According to Charles Schaefer discipline is something that includes teaching, guidance or encouragement made by adults that aims to help children learn to live as a social being and to achieve their growth and optimal development.

Of the various terms of the discipline in children can be seen that the discipline is to teach children how society regarding moral behavior in which the group agreed on the necessary elements of voluntarism and self-awareness. That is, the willingness and ability to behave according to the rules agreed within the group arises from the absence of coercion. Therefore, in the teaching discipline should be no coercion from parents or teachers as leaders, so that the child or student will be disciplined because of the awareness of the child's own self, not coercion. Thus, the child will be able to know and purpose of discipline is to a better life and useful for their own happiness, especially as related to social skills.

The purpose of discipline for early childhood

The purpose of discipline is formed such that the child's behavior will be in accordance with the roles assigned cultural group, where the individual was identified. Parents or teachers are expected to explain in advance what uses or benefits of discipline for children before they undertake disciplinary action against a child. This is done so that the child understands the intent and purpose of discipline when they are traveling. And in the end it will be fruitful in good stead for the development of the child.

B. Educational Games

Educational games is an activity that is fun and can be a way or means of education that are educational and beneficial for improving language skills, thinking and hanging out with the environment or to strengthen and menterampilkan the child's limbs, developing personality, closer relationships between educators with learners , then channeling the activities of the students and so on (Dastbaz, 2005).

Educational games can also mean a form of activity that is carried out to obtain pleasure from the way of education or the media used in the play activity, conscious or not, has a charge of education that can be useful in developing self-participant.

Educational games should have a function to develop various aspects of child development, such as motor, language, intelligence, and socialization (Bates, 2004). Besides educational toys should be played with many variations, but not so difficult that children would easily frustrated, or too easy so the kids will get bored quickly (Schell, 2008).

Criteria Making Educational Games

- Easy and Simple Design

Educational game design should have a simple design. The most important thing is the right and hit the target education, so that children are not burdened with complexity.

- Multifunction

Educational games suitable for boys or girls, so it can also be formed according to the creativity and desire children.

- Attract

Educational games should be able to motivate the child and does not require intensive supervision. So that the child will be free to express kekreatifannya.

- Sustainable and as needed

Educational games should be durable and appropriate desired goals, as needed, and do not spend the room.

- Develop An Imagination

Educational games is expected to develop the power of fantasy and imagination of children.

C. Child Development

Children ages 2-8 years old is a child in the preoperational stage. According to (Piaget, 1988) key feature at this stage of development is the use of symbols or sign language, and began the development of intuitive concepts. Preoperational (2-4 years old) at this age children have been able to menggunakkan language in developing the concept, although it is still very simple. The characteristics of this phase are: (1) Self counters are very prominent, (2) to classify objects on the ground level as a single and striking, (3) Not able to focus on different objects, (4) Able to collect goods according to criteria including proper criteria, (5) to arrange objects in a row, but at can not explain the difference between the rows

Intuitive Phase (4-8 years) has the following characteristics: (1) the child is able to form classes, but are less aware of the intention, (2) the child begins to understand the logical relationships in complex matters, (3) the child can do something about the number of ideas, (4) the child is able to acquire the principles correctly.

Early childhood education (0-8 years) was studied at the same place for children to play. The children were taught to know the rules, discipline, responsibility and independence by playing. Children are also taught how they should adapt to the environment, to empathize with her, of course, also practice working with the other children.

Through containing educational play activities, children's cognitive arousal to stimulate emotional development, social development and physical development. Every child has the ability and interest to play different depending on the child's development. Of the game also will usually cause a great fantasies by children, and will surely add to the child's interest in the toy (Salam, 1997).

III. METHODS

Making educational games to introduce the discipline necessary to first identify the need for educational games used as reference input. Figure 1 describes the process of creating discipline educational games.

To set up some design principles for educational games we have used a holistic perspective. This means that the design principles must be seen in coherence within the social and physical environment (Thomas Bjoerner, 2011). In this research to get input as a key theme for the educational games, the

researchers conducted interviews to several teachers in kindergarten Wildani, Surabaya. In addition, researchers also seek advice from child experts and game experts. So that educational games can visualize habits that reflect child discipline. The result of this interviews are used as an input for Educational Games and can be seen in Figure 1.

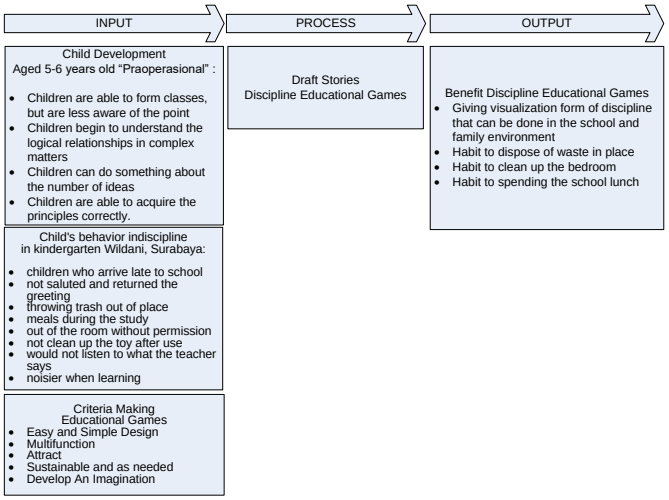

Figure 1. Process of Creating Discipline Educational Games.

Figure 1 describes the game there are 3 types of input, including the development of children in the 5-6 year age entered Preoperational stage with the ability: children are able to form classes, but are less aware of the point, children begin to understand the logical relationships in complex matters, child can do something about some ideas, children are able to acquire the principles correctly. In addition there are observations of attitudes and behaviors that do not discipline children kindergarten Wildani Surabaya include: children who arrive late to school, no greeting and returned the greeting, taking out the trash is not in place, a bite to eat at the time of study, out of the room without excuse me, do not tidy up toy after use, do not want to listen to what the teacher says, noisier when learning. Moreover discipline educational games educational games also incorporate criteria that include: easy and simple design, multifunctional, attractive, durable and as needed, to encourage children to play together, develop an imagination.

Child benefits to be gained in playing the game is: provide visualization form of discipline that can be done in the school environment, habit to dispose of waste in place, cleaning the bedrooms, spending on school lunch.

From some inputs resulting from child development, observation of the attitude and behavior of children in school as well as the criteria of educational games, then obtained a draft narrative discipline educational games that can be seen in Figure 2.

Draft Stories
Discipline Educational Games

- Players clean the school garden full of rubbish and put it in the trash can of organic and inorganic (first theme)
- Players cleaning the bedrooms (second theme)
- Player spending on school lunch (third theme)

Figure 2. Draft Stories Discipline Educational Games

The design of educational games disciplinary story explains that there are three (3) kinds of games that cleans the school garden, and spent tidying toy school supplies. Each player is required to complete a given game. There is no time limit given, meaning the player can finish the game all day. And if the player has completed the 3 game, then the player will get a 3x3 puzzle piece number 1 (one) pieces of the puzzle. If a player has received nine (9) pieces of the puzzle, the player can play the puzzle. The following flow chart describes the flow of educational games discipline, can be shown in Figure 3.

In Figure 3, there are two variables, n and m for the theme to the puzzle. There are three themes in the game, and the player may initiate any theme. If a player has successfully completed the three themes, then the player will get 1 pieces of the puzzle. Puzzles are featured in this game that amounts to 9 3x3 pieces of the puzzle. Puzzle featuring themed images discipline, encourage children to recognize how they should be disciplined at school. The puzzle can be played if the number of puzzle pieces have been numbered 9 pieces.

There is no time limit on the game, so if at any time the player wants to leave the game, then the game will save the results of any form of the game that has been done by the player.

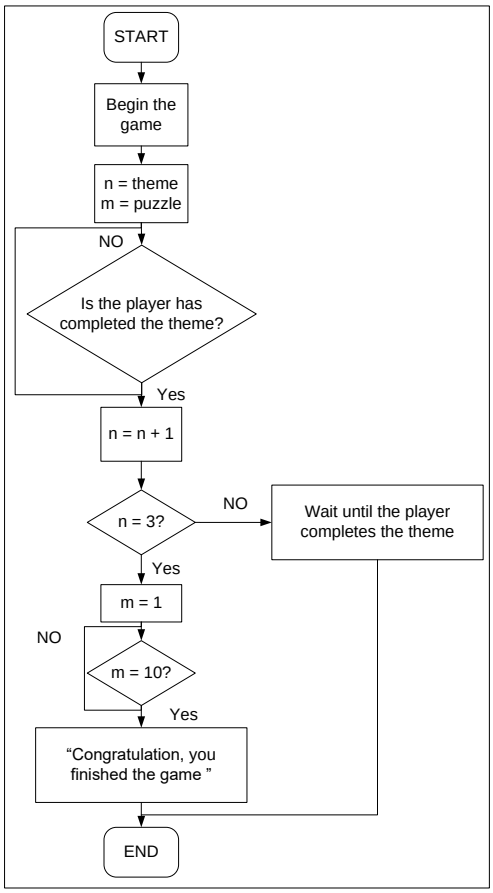

Figure 3. Flowchart Discipline Educatinal Games

IV. RESULT AND ANALYSIS

In the discipline of educational games, there are three themes that cleans the school garden game so that players can differentiate types of organic and inorganic garbage, then the player can clean the bed so that the player can be used to clean the room both at school and at home, then the third theme is the player spends school supplies. Figure 4 shows the game cleaning up the school garden.

Figure 4. Cleaning the School Garden

Figure 4 shows the game with the theme of cleaning up the school garden. Players can move the cursor to point garbage and trash will issue a shadow intended that the player directs the garbage that has been designated by the cursor, to enter into the trash bin. If a player has managed to put all rubbish in the bin, then the player gets 1 point.

Figure 5. Cleaning The Bedroom.

Figure 5 describes the game clean bed so that the player can be used to clean the room both at school and at home. Selection of the bed room so that children also know the form of discipline that can be done in the immediate neighborhood children that the family environment, if a player has cleared the bedroom, then the player gets 1 point.

Figure 6. Spending on school lunch

Figure 6 shows the game to spend a school lunch. Players can use the cursor keys to move the spoon closer to the mouth of the player character, and when the spoon was near the mouth those character, then his mouth will open and the school lunch will be reduced. If the player could finished the school lunch, then player will be get 1 point.

Figure 7 shows the pictures themed puzzle discipline so that children can get to know the form of discipline. This puzzle will be displayed if the player already gets 3 point.

Figure 7. Puzzle of Discipline Educational Games

Questionnaire was conducted to test the level of success of the introduction of discipline educational games. Data respondents use 20 (twenty) Wildani kindergarten children, Surabaya and 5 (five) teachers. Questions will include: (1) whether you like the look of the game, (2) whether you easily do the game, (3) if you manage to get the puzzle pieces, (4) if you managed to get all of the puzzle, (5) whether you can play puzzle that you get, (6) whether you can use the mouse to move objects in the game, (7) whether you like the color that appears in the game, (8) whether you like the characters that appear in the game. In acceptance evaluation methods, participants are presented with products individually, for which an evaluative judgement is elicited without direct comparison to other products (Bieke Zamana, 2013).

Here are the results of the questionnaire can be seen in Figure 8. There are 67% of respondents liked the game and 33% of respondents do not like the game.

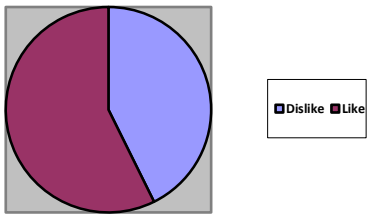

Figure 8. Result of the satisfaction player of discipline educational games

V. CONCLUSION

Introduce forms of discipline can be done through educational games. Visualization of discipline that can be shown in schools may be cleaning the school garden, cleaning the room and spent the school supplies. With the kindergarten educational games that children can recognize the shape of discipline in a fun way.

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