



# Educational Game Development RPG (Role-Playing Game) Introduction of Department for Prospective Students Using RPG Maker MV

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## ABSTRACT

Several studies state that many students have the wrong major and things this causes problems for them. Data obtained through questionnaires (2016) in 40 respondents of students majoring in informatics engineering, as much as 65% admitted that he was in the wrong major and the biggest cause was misperception. All respondents agree if there is a game that can introduce engineering majors informatics to prospective students of informatics engineering. Then from the questionnaire another with 30 respondents, prospective informatics engineering students can be withdrawn. The conclusion is that most of them still do not really know the majors. There are educational games that successfully teach users and game genres Indonesian gamers' favorite is the RPG genre. Therefore the researchers made a game RPG education to introduce informatics engineering majors. Game creation using the method of collecting data from literature and questionnaires, while game development using the Ramadan & Widyani GDLC method. The software used in making this game is RPG Maker MV. After the game is over, it is tested on 30 prospective engineering student respondents informatics, the result is 80% of respondents stated their perception about the majors information technology is changing.

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## 1. INTRODUCTION

A study released in November 2013 by ACT, College Choice Report Part 1: Preferences and Prospects, stated that 64% of students who take the ACT test choosing a major that does not match your abilities academics and interests. Students who choose the appropriate major abilities and interests, it is very possible to stay in that major, fight persistently on campus, and completed his studies in 4 years. Whereas, choosing the wrong major can cause a delay in graduation; a number of students will change majors several times which results in increased points lectures to be completed, some other students will transfer to school other. From the results of another study conducted in 2013 by Ina Liem, an In Country Manager at La Trobe University Australia, with interviewed 50 respondents, it was found that more than 50% admitted to being wrong choose a college major. They feel that the major they take is not according to the interests of their talents so that they do not develop and are difficult to follow lesson.

Then according to Irene Guntur, M.Psi., Psi., CGA, Educational Psychologist from Integrity Development Flexibility (IDF), 87% students in Indonesia are in the wrong major, and the wrong major can trigger unemployment. He stated this to okezone.com in February 2014 then. From the statements above, it can be concluded that there are still many students who choose the wrong major or feel they have the wrong major. From the questionnaire entitled "HOW MANY ENGINEERING STUDENTS INFORMATION THAT FEEL WRONG DEPARTMENT" that the researcher made in

Google online form which began to be distributed on November 14, 2016 until November 20, 2016, with the respondents being students majoring in Engineering In the final semester of informatics until graduating from Syarif Hidayatullah State Islamic University, Jakarta, it was found that out of 40 respondents, 26 students (65%) admitted to wrong majors and the remaining 14 respondents (35%) admitted they were not in the wrong major. The things that caused these students to take the wrong major were (a question containing more than one answer that the respondent could choose): 8 of the 26 respondents who were in the wrong major (31%) admitted that they had taken the wrong major because of the lure of a bright future, 1 person out of 26 respondents in the wrong major (4%) admitted to having taken the wrong major because the respondent entered the Informatics Engineering major only because of following their friends, 2 out of 26 Respondents in the wrong major (8%) admitted that they had taken the wrong major because someone told them to do it old to enter the Informatics Engineering major, 17 out of 26 respondents are wrong majors (65%) admitted to being in the wrong major because they had misperceptions about majoring in Informatics Engineering, 4 people out of 26 respondents wrong major (15%) admitted that he had taken the wrong major because he used to choose a major, and 3 people out of 26 respondents wrong major (12%) have other reasons.

## 2. RESEARCH METHOD

In this chapter, the method used in the final project research is described, because in the preparation of this final project data and information are needed as supporting materials in making games. The methods used include data collection methods and game making methods.

### a. Method of collecting data

The research method is a scientific way to obtain data with specific purposes and uses. Data collection techniques are the most strategic steps in research, because the main purpose of research is to obtain data (Sugiyono, 2013).

### b. Game Development Method

In this study, researchers used the multimedia development method or GDLC (Game Development Life Cycle) proposed by Rido Ramadan & Yani Widayani. This GDLC method has stages in practice, namely Initiation, Pre-Production, Production, Test, Beta, and Release.

## 3. RESULTS AND DISCUSSIONS

### 3.1 Game Results (Main Menu)

The main menu page is the game's start page which consists of: game title background and three main menus. New Game menu will start game from the start, the Continue menu will redirect the player to the selecting page save the file that was previously saved in the middle of the game and start the game from the save file, and the Options menu will open the following settings options can be changed.

### 3.2 Test result

#### a. Foundation Prototype

This prototype relates to the fun quality criteria. -shaped prototype game basic concepts and core gameplay mockups. The quality of fun is tested by the method discussions between researchers, fellow game developers, and supervisors. Results The discussion obtained is that the quality of fun on this prototype is fulfilled with the concept the game, art, and sound are quite interesting and there are challenges that suit you research needs.

#### b. Prototype Structure

The quality criteria associated with this prototype are fun and functional. The quality of fun is met with the realization of the results of the discussion at this stage earlier and game design. The main character can be moved as desired players on the available maps and stories and missions that are already running. Quality functionally tested by playtesting by the researcher. Functional quality is met with game functions or features that have been running well.

**Table 1.** Prototype Structure

NO	Scenario	Test	Result Goal
1	Press the Z button on the menu new game on title page	Starting a new game	In accordance

2	press the Z button on the menu options on title page Go to the appropriate options page	Go to options page	In accordance
3	Press the X button on options page	Back to title page	In accordance
4	Press the right arrow key Move the character main to right In accordance	Move character main to right	In accordance
5	Press the left arrow key	Move character main to left	In accordance
6	Press the up arrow key	Move character main up	In accordance
7	press down arrow key	Move character main down	In accordance
8	Press arrow key + shift	Move character main quickly	In accordance
9	Press the X . button	on the map Opens the in-game menu	In accordance
10	Press the Z button on the in-menu games	Selecting a sub-menu on the in-menu games	In accordance
11	Press the X button on the in- menu games	Close in-game menu	In accordance
12	press the Z button on the NPC	Talking to NPCs	In accordance
13	Press the Z button on the choices that NPCs give	Approved choice	In accordance
14	Press the Z button on the choices that NPCs give	Deselect	In accordance
15	Press the X button on the event fill in character name main	Delete one character on the main character name	In accordance
16	Press the Z button on the event fill in character name main	Add one character for the main character name	In accordance
17	Press the arrow keys on event fill character name main	Choose a character for main character name	In accordance

### 3.3 Discussion

This discussion will provide an explanation of the relationship between the problem formulation that was made earlier in the initial chapter and the results research obtained. "How to make an educational RPG game that can introduce the department of informatics engineering to prospective engineering students informatics using RPG Maker MV?". The first stage in this research is to find out how many students of informatics engineering feel the wrong major, the causes, and consequences, as well as find out their knowledge. Prospective students of informatics engineering about the major. The method used is to distribute a questionnaire with a purposive non-probability sampling technique, namely the determination of the sample with special considerations. The first questionnaire distributed to students who are currently studying in the department of informatics engineering and the second questionnaire is distributed to prospective students who are interested in majoring in informatics engineering. From the first questionnaire, it can be concluded that, more than half of the students who responded had the wrong major, and more or less three-quarters of students who are in the wrong major have problems related to education and can affect th future

they. And most of the causes of these students to the wrong major is a misunderstanding about the Department of Informatics Engineering.

From the second questionnaire It can be concluded that there are still many prospective students majoring in engineering informatics who do not even know the basic knowledge that will be studied in the informatics engineering department. List of questionnaire questions and the results are contained in chapter IV and appendix. After getting the results of the questionnaire, the researcher formulates the basic concept of the RPG educational game that will be developed. To prove that the basic concept can be accepted by potential target users, the researchers used the 2012 Agate Studio questionnaire and survey as a reference. From the results of the questionnaires that have been distributed, 100% of the 40 respondents are interested in the existence of games that are able to explain to prospective students what is actually being studied in the Department of Informatics Engineering, so that prospective students do not have the wrong perception about the Department of Informatics Engineering and can decide whether he really has an interest in the major.

#### 4. CONCLUSION

RPG educational game to introduce informatics engineering majors to This research has been successfully built. Games are able to entertain while introduce the department of informatics engineering to prospective students of the department, change perceptions about the major, and help prospective students informatics engineering to decide if he really wants to major. The game is built using RPG Maker MV and Ramadan & Widayani's GDLC (Game Development Life Cycle) development method.

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