**Scope and Limitation**

The proposed game application will implement to sustain the needs of the user in particular to the IT Students. This game application can improve their strategical thinking, logic and memorization skills.

The game application consists of two modules the Game Module and Lecture Module. Also, these modules explains how the game application will work by every page of the application.

In **Game Module**, this is the exciting and challenging part of the game application, it contains all the buttons of the game which is the start, settings and about. In the start button it will display a pyramid that will also display the stages and the rooms that is needed to escape in order to get the puzzle piece. Also, before proceeding with the game in the upper right side of the pyramid users can see the help button that displays the general rule of the game. The settings button displays the sound, music, volume. The about button displays all about the game. In this module, the users can apply their strategical skills in order to solve every problem given by the rooms of the game. This can also practice their memory by solving different problems in every level. Each level of the game has the problem from every lecture of Discrete Mathematics, the first level is all about the easy topic of the subject that will be their foundation in order to solve every problems that they will encounter because all the topic are connected by one another. From the first topic which is the easy part, they should escape every room to get the puzzle piece until they reach the hard level and be able to complete the puzzle pieces and assemble it so they will get the key for the next pyramid.

In **Lecture Module**, it will be the very first part of the game. It contains all the topics about discrete mathematics like the logical arguments and propositions wherein they can understand what is logic, arguments, statement, truth value, premises, conclusion, bad arguments and good arguments. Also, we have logical connectives wherein they will encounter negation, conjunction, disjunction, conditional and biconditional. We have compound proposition wherein we have the logical expressions, atomic expression, compound expressions, schemas, precedence rules and truth table validity method which is the tautology, contradiction and contingent. We also have rules of inference wherein they can understand more about modus tollens, modus tollens, hypothetical syllogism, disjunctive syllogism, constructive dilemma, conjunction, simplification and addition. Also, we have rules of replacement wherein they can know the use of double negation, de morgan’s theorems, material implication, material equivalence, transposition, commutation, association, distribution, exportation and tautology. The lecture part and the tutorial on how to apply it will be in interactive way. The lecture will appear in every it is the first thing that the users will notice in every room before proceeding in the problem solving. The users obliged to read and listen in every lecture part before they proceed to the game so they can be able to escape the room and get the puzzle piece.

In **Game Settings Module,** it contains the music and sound of the game wherein users will just click the on and off button.

The limitation of the proposed study are the following: It will only be a 2Dimensional game application. The application was designed for the Android device, it will work only in Mobile phones that has the android’s latest version. Also, it has just 12 different rooms for the users to play and just one puzzle to assemble in the end of the pyramid, future researchers can add another pyramid for the users to have more rooms to play with and let that room elaborate more of the topics in the Discrete mathematics. In addition, researchers could say that the most beneficiary of our proposed game application will be the IT students because they can use it as the second learning material in order to understand the Discrete Mathematics.