

**ZIGGY: COMPUTER-BASED JIGSAW PUZZLE FOR
CHILD DEVELOPMENT CENTER**

THESIS

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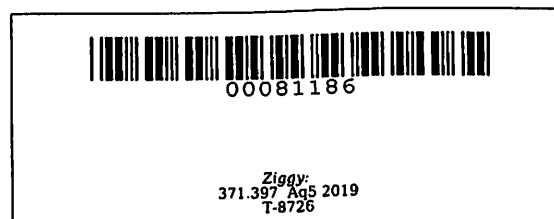
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ABSTRACT

AQUINO, HONEYLENE S., BULANHAGUI, AUDOUIN C., and MADRELEJOS, MARU JERROFEI T. Ziggy: Computer-based Jigsaw Puzzle for Child Development Center. Undergraduate Thesis. Bachelor of Science in Information Technology. Cavite State University, Indang, Cavite. April 2019. Adviser: Mr. Jake R. Ersando.

The study was conducted from August 2018 to April 2019 in Child Development Center, Indang Cavite to develop a computer-based jigsaw puzzle game that can help to increase a child's memory capacity which allows them to familiarize specific people, animals, things, and other activities at the forefront of their minds. Specifically, the study aims to (1) design the application with the following feature: create an interactive virtual jigsaw puzzle game design, create a list of categories where the users can choose their desired puzzled image to solve, and create a collection of images as well as trivia's that corresponds to the chosen category of the game; (2) create the application using Microsoft Visual Studio 2010 Ultimate C#; (3) test and improve the functionality of the application using unit testing; and evaluate the performance of the development of the application with the help of the students of Child Development Center.

The methodology used by the researchers was the Prototyping methodology (Pfleeger, Atlee 2012). It consists of four (4) phases: Prototype Requirements, Prototype Design, Prototype System, and Testing. The system was evaluated based on the criteria of functionality, reliability, usability, efficiency, maintainability, portability and user-friendliness. The participants of the system evaluation were composed of 10 Department of Information Technology Faculty Members and 50 Grade One and Grade Two students of Child Development Center. Evaluation results have an excellent interpretation, indicate

for the system has passed completed and meet all the needed requirements and achieved the objectives of the study.

The results show that the system was judged to be excellent in general by all the participants in terms of its functionality, reliability, usability, efficiency, maintainability, portability, and user-friendliness. The results were tabulated, analyzed, and statistically treated using mean and standard deviation.

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INTRODUCTION

Computer based Game Application Jigsaw puzzle is the most famous puzzle game throughout the world. You may think how a jigsaw puzzle is constructed. This type of game is created through a machine called jigsaw puzzle machine or puzzle cutter machine. The machine is incorporated with a die. Remember, the size and shape of game depends on puzzle dies. According to industry expert, manufacturing jigsaw puzzle at home is one of the most lucrative home businesses. This is the main reason that demand of such game machines is very high. A jigsaw puzzle is a common puzzle that consists of an image divided into many small pieces. Solving the jigsaw puzzle involves assembling these pieces together to form the original image.

Although there is evidence that the ancient Egyptians and some Middle Eastern cultures manipulated broken clay tablets, it is generally accepted that the first modern