

ARKLIGHT EDGE
A 2-Dimensional Space Shooter Computer Game with
Integrated Educational Mini-games

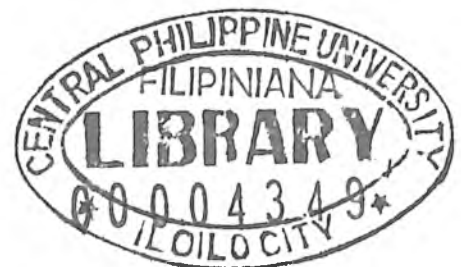
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ABSTRACT

Gaming regularly implies a large scope that mainly points to a gameplay, possibly as a hobby of simulating electronic games. Games are known as an interactive medium for storytelling and has a unique capability of letting the player be involved in the flow of the story, as well as affect the outcomes or endings of a game.

The Arklight Edge is a 2 Dimensional game that was studied and developed to make use of a game-based learning by creating a 2D shooter video game that will serve as a tool for educating players as well as entertaining the target user by introducing proper game mechanics.

The methodology used in developing the study is the Agile Methodology which is composed of the concept development, design, implementation, testing and deployment phases.

On each phase, the study aimed to strike a balance between effective learning and fun. The team tends to achieve these by embedding mini-games into the game which offers rewards and punishment to motivate the user, and use effective storytelling to engage the user into learning.

Basic introductory computer science concepts such as the binary number system, shortest path algorithm, basic cryptography and logic gates are the topics to be integrated in the game. Supplementary learning will be used, meaning, the user will learn these concepts by solving puzzles and then later provided with explanations of the theories used.

In conclusion, the researchers were able to deliver the needed output and was able to incorporate both fun and learning all into one game based application.