ABSTRACT

DEVELOPING ARCADE-SHOOTER GAME APPLICATION

By

DECKY ISKANDAR
10107661

The era of the computer as a platform for video games started in the 1950s. Arcade-shooter video games is a type of which was star in the golde age of video games. Over time, the games were abandoned by its devotees due to decreased level of user interest for this type of arcade-shooter games. Based on research data through observation, interviews, and questionnaires conduct by researcher to the arcade game player community, some of the things that makes the game not interesting anymore in their point of view caused by several things sucs as simplicity of gameplay, unattractiveness of graphical display, audio that seems ancient, lack varieties of enemy, and poor control of aircraft character navigation.

Arcade-shooter game application development is the solution of the exsisting problems. This development refers to the conventional arcade-shooter which would be evoluted on the aspect of gameplay, display, and audio during the process. Software development methods on the process use object-oriented approach with UML 2.0 as documentation tool. Reverse engineering done at the early stages of the development and then proceed to the evoluting the application by implementing some new methods. The methods applied include game AI finite state machine with a bounding rectangle collision detection to trigger its events.

After going through the stages of development in accordance with the method choosen, then proceed to the next phase which is the implementation of this application. After that, the phase continue to testing the application consisting of alpha testing with white box method and beta testing with the questionnaires technique which given to the arcade game players community that involved before. Based on the results of testing has been done, can be concluded that the overall application runs as excpected. The new application which is the developed one is excpected to meet with the goals of the research such as growing and raising again the level interest in the arcade-shooter game application.

Keywords: Game Application, Arcade-shooter, ArkAId XIV, *Finite State Machine, Bounding Rectangle Collision Detection.*