DEVELOPMENT OF THREE DIMENSIONAL INTERACTIVE MAP OF FOOTBALL STADIUM, INDOOR FUTSAL FIELD, AND TENNIS COURT OF INSTITUT TEKNOLOGI SEPULUH NOPEMBER SURABAYA WITH UNREAL ENGINE

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ABSTRACT

Nowadays, the increase of information technology support many business needs solution. This led development of three-dimensional visual technology was selected as a business solution. With this technology, promotional activities can be presented in so much more interesting, complete, and interactive form. If visualization is applied to the map, the user can feel like visiting a place virtually in accordance with the actual situation without having to come directly to the venue. ITS as an institute of technology certainly want to pamper its visitors to get to know the area that is in them without having to drive around and visit in person. To fulfill this, in this thesis ITS maps in three dimensions is developed. Of course three-dimensional map is different from the two-dimensional map that can only describe the layout and location of the flat field. In the three-dimensional map, the user can interact with objects in it, while the two-dimensional map can’t.

This thesis focused on actor’s interaction with available object on the map, such as simulation game. Therefore, in this thesis has been made a three-dimensional map using an application named Unreal Development Kit (UDK) Engine. Besides, there are some
supporting applications that must be integrated first with UDK. For example Autodesk 3D Studio Max to make three dimensional object, Microsoft Office Visio to make two dimensional map, Adobe Photoshop to make texture and material, Audacity and RAD Video Tools to sound record and editing, and Adobe Flash to make the animation or user interface.

This three-dimensional map provide visualization of football stadium, indoor futsal field, and tennis court of ITS area, which is equipped with information menu and interaction information such as watch video interaction and other interactions such as opening and closing doors, and also turning on and off the lights. The differences between this thesis and other INI3D applications are game interaction in FASOR ITS are such as free kick simulation at football stadium, ground kick simulation at futsal indoor field, and do service ball at tennis court. To run this application, users are required to have a computer with a VGA card as a minimum condition.

Keywords: 3D map; Unreal Engine; Football Stadium, Indoor Futsal Field, and Tennis Court of Sepuluh Nopember Institute of Technology.