

# Potential of Using Virtual Environment for Aircraft Maintenance Learning System in Making Tacit Knowledge Explicit

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**Abstract.** This paper presents an early result of developing a virtual environment for Aircraft Maintenance Learning System in visualizing tacit knowledge to make it explicit. The idea of visualizing tacit knowledge is meant to facilitate efficiently trainers who are dealing with maintenance tasks every day. This virtual environment will provide three principle steps of training session which are to (1) introduce, (2) mentor, and (3) practice. By relying on the Model for Inspection Training Program Development in General Aviation, we emphasize two main activities (training methodology, program evaluation), which all are working with 3-Dimensional graphical images in representing the knowledge; so called VAMLS. VAMLS is associated with Rule-Based engine that used to store and manipulate the collection of knowledge to be interpreted via Role Playing Game – a game that allows learners to presume the role of their 'actual' characters by taking in the responsibility for acting out their role. Therefore, it is anticipated that this tool will help learners in optimizing Tacit Knowledge thus can maintain the standard (equal) knowledge within the process of maintenance learning.

**Keywords:** Virtual Learning Environment, Role Playing Games, Visualizing Tacit Knowledge, On Job Training, Computer-Based Training, Aircraft Maintenance Learning.

## 1 Introduction

In the environment of aircraft maintenance training, the involvement of both experience and understanding of the people in the society and the information artifacts available within the organization are the key success in obtaining the greatest value of the knowledge delivered. Knowledge can be categorized into two different types which are tacit and explicit. Currently, the importance of tacit knowledge in terms of how it can be converted into explicit in organizational learning and innovation has become the focus of substantial attention.

According to Watanuki and Kojima (2006) in their model of conceptual for SECI (Socialization, Externalization, Combination, Internalization), they have identified

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