

AR-BASED APPLICATION FOR INTRODUCING GYM EQUIPMENT AND MOVEMENT VARIATIONS

JAKA RAHMAT SAMBEGANA

*Informatics Study Program, Faculty of Science and Technology,
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor, Sleman, Yogyakarta
E-mail: jakasambegana@gmail.com*

ABSTRACT

Silver Gym, located in Kasihan, Bantul, Yogyakarta, is a fitness center that provides various gym equipment such as dumbbells, plates, barbells, smith machines, and treadmills. The large variety of equipment and exercise movements in weight training (gymnastics) often makes it difficult for members to recognize and use them correctly. Incorrect movements can lead to muscle injuries, whereas proper techniques can enhance workout effectiveness and reduce the risk of injury. A lack of understanding regarding equipment functions and exercise techniques has led to injuries among members, delaying muscle development due to recovery periods. To address this issue, this study proposes the development of an Augmented Reality (AR)-based application to introduce gym equipment and demonstrate movement variations. The application was developed using Unity 3D and the Vuforia Engine for AR functionality, with Blender used for 3D object modeling. Key equipment featured includes dumbbells, plates, and barbells. The application was developed on an HP laptop and tested on Android smartphones. Its core features include 3D visualizations of gym equipment, along with their names and functions. The application is expected to assist gym members in understanding proper equipment usage and movement techniques for safe and effective training.

Keywords: Gym, AR, Unity 3D