

## ***ABSTRACT***

Augmented reality is a technology that combines the virtual object into real world in realtime. But in a case, augmented reality default application is unable to interact between virtual object and real object.

The shortcoming of that augmented reality application can be handled with Vuforia. With Vuforia, the application can detect real objects. In this final project, the writer wants to add collision detection to Vuforia augmented reality application so that the virtual object can interact with real objects in an augmented reality environment.

The result obtained in this final project is that the shape and size of an object affect whether it is detected or not in the application. A big and solid object like a perfume bottle will be easily detected in the application with a success rate of 100%. However, if the object is thin and tiny like a wallet, the application will hardly detect that object in a range between 45 cm and 60 cm.

**Keyword:** augmented reality, Vuforia, collision, occlusion.