Abstract

**Background** Animation is the visual technique of illusion of motion by rapid succession of images. Animation usually comes in the format of animated film, either a 2-dimensional or 3-dimensional film. The global animation industry today is a big one that can cost years to create and receive millions in income. In order to maximize profits from animated films, it is necessary to aid the animation production process.

**Objectives** The objectives of this paper is to create tools which can aid the animation process by providing convenience in work and working time reductions. The combined effect of this is an increased productivity of the animators which in turn can lead to increased profit.

**Method** Two add-on tools will be created for Blender 3D to aid in bone selection and lip sync animation. The bone selection would assist in model manipulation while the lip sync aids in creating matching phoneme animations with the input dialogue. These tools will then be pilot tested in a local animation studio by an expert Blender animator. The results will then be discussed with the expert to gauge the tools’ effectiveness.

**Results** The tools have shown providing convenience and time reductions in working conditions, shown in a comparison matrix in scenarios between working without the tools and working with the tools, as well as collected user response. Both tools are accepted with positive feedbacks from the expert animator.

**Conclusion** Based on the analysis and discussion of test results and user response, it is found that the add-on tools have achieved their objective in providing convenience and time reductions in working conditions.

**Key Words** Animation, Animated Film, 2D, 3D, Blender 3D, Convenience, Time Reduction, Productivity, Profit, Bone, Bone Selection, Model Manipulation, Lip Sync, Phoneme