# Chapter 12 Conclusion and Further Work

## CONCLUSION

Mechanical engineering course subjects such as Mechanics Dynamics, combine a mix use of mathematics, schematic diagrams, and text descriptions. Frequently, students are unclear of basic principles of Engineering Mechanics Dynamics, and as such they do not know which mathematical relationships are to be applied in solving a particular problem. Additionally, as the name "dynamics" implies, the very nature of this subject is not "static" and thus requires learners to visualize motion; for example, in a given time period, a particle may be moving in a straight line and after some seconds the particle may experience a curvilinear motion. If the learner fails to see this, the learner will not be able to employ the right equations to solve the problem.

As such, an effort was made to evaluate the feasibility and effectiveness of employing technologies such as multimedia and desktop virtual reality to enhance the problem solving skills and learning of students.

In this book, the development of computer-aided learning software termed as technology assisted problem solving (TAPS) packages is demonstrated in Chapter 7. The book provided an overview of developing TAPS packages using multi design approaches. The work is one of the pioneering efforts to

address the need for computer based problem solving software packages for the domain of engineering. The development processes of TAPS packages are shown in (Figure 1).

More specifically, the conclusions of the study are as follows.

# **Technologies**

The use of multimedia and desktop virtual reality in the development of TAPS packages has helped to address the potential benefits of employing technologies which provide a combination of multimedia and dynamic illustrations in engineering problem solving tasks. The ability of mixing different formats of media for the development of TAPS packages has greatly enhanced the ability to convey engineering concepts and descriptions in a better and simple manner (as stated in Chapter 6). The TAPS packages

Figure 1. Development processes of TAPS packages



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