

V.S.B. Kiridena and M.P. Ranaweera  
*Faculty of Engineering, University of Peradeniya*

Pipe systems used in many industrial applications are fabricated from sheet metal by drawing and cutting the developments of different parts of the system, bending them to shape and welding them together. The generation of the developed profile is a laborious exercise in descriptive geometry and much time and effort is needed for it, if done manually. The computer can remove the drudgery of this process and by using it one can obtain a more accurate development profile with much less time.

Towards this end, software has been developed at the Computer Aided Design Laboratory, Faculty of Engineering, Peradeniya, on a microcomputer system. Specific components considered are; intersecting pipes with arbitrary diameters inclinations and eccentricities, concentric as well as eccentric reducers, saddles and ducts. The input of basic parameters such as pipe diameters, angles, eccentricities etc. are done through conversational means by responding to a series of questions asked by the system and the output consists of the plot of the developed profile of the part. The latter can be used as a template to cut the sheet metal and fabricate the part concerned.