

Preface to the Second Edition

The second edition of *Applied Geometry for Computer Graphics and CAD* features three substantial new sections and an additional chapter. The new topics, which include discussions of quaternions, surfaces, solid modelling and rendering, give further insight into the applications of geometry in computer graphics and CAD. The text has been revised throughout, and supplemented with further examples and exercises: the second addition contains more than 300 exercises and over 120 illustrations.

In Chapter 3, a new section introduces quaternions, an important method of representing orientation that is used in computer graphics animation.

Chapter 9 has been expanded to provide two new sections that focus on the applications of surfaces in CAD: Section 9.6 describes skin and loft surfaces (including Gordon–Coons surfaces), and Section 9.7 discusses geometric modelling. The chapter also benefits from additional examples of applications of surfaces; for example, offset and blend surfaces, and shelling and thickening operations.

A new final chapter addresses rendering methods in computer graphics and CAD, and presents an introduction to silhouettes and shadows.

There is a web site for the book which contains additional information and further web links:

www.springeronline.com/1-85233-801-6/

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