Pixar's business is to provide digital technology for visualization. We are in the midst of a continuing revolution in computer technology that is producing powerful new tools and increasing amounts of information. The ability to control these tools and to convert this information into knowledge requires very rich communication between man and his machines. Pixar deals with the richest of the perceptual channels available—vision. The value of this communications channel is reflected in our very language, where to see is synonymous with to understand.

Pixar provides high-performance technology designed to bring cost-effective visualization tools to the marketplace. Pixar was founded by experts who were responsible for many of the startling innovations in computer graphics during the last decade. They continue to be committed to advancing the state of their art and ensuring that their work results in tools that can be used to solve real-world problems.

COMPANY HISTORY
Pixar started in 1979 as the Computer Graphics Division of Lucasfilm Ltd. When George Lucas recruited Dr. Ed Catmull, then director of the Computer Graphics Laboratory at the New York Institute of Technology (NYIT), to develop state-of-the-art computer technology for the film industry. Shortly after joining, Dr. Catmull recruited Dr. Alvy Ray Smith, a senior scientist at the NYIT Computer Graphics Laboratory, to lead the research team as director of computer graphics research. Dr. Catmull is now president of Pixar and Dr. Smith is vice president.

Key software and hardware experts from the computer graphics industry were recruited over the next five years. Their research and development efforts produced over a hundred papers published in respected technical journals. An example of their standing in this community was the 1984 conference of the ACM's Special Interest Group on Computer Graphics (SIGGRAPH) where seven of the thirty papers accepted for publication were written by this group.

At Lucasfilm, the Computer Graphics Division applied its research to the practicalities of motion-picture production. Sequences of computer animation were produced for Star Trek II: The Wrath of Khan, Return of the Jedi and Young Sherlock Holmes. The challenge was to create computer-generated images of sufficient realism that they could be convincingly combined with live-action photography. This challenge was successfully met in the stained-glass sequence of Young Sherlock Holmes which required the computer animation of a stained-glass figure menacing a minister who was filmed in live action.

This work for the film industry required sophisticated image-processing techniques to be used in conjunction with the best in computer graphics. It became apparent that there were no machines commercially available that addressed these combined needs. Thus was born the idea that led to the development of the Pixar Image Computer™. Historically image processing and computer graphics have been two separate technical disciplines, each served by machines limited in their capabilities to their target markets. The Pixar Image Computer created an exciting synergy by combining these capabilities. The new discipline emerging from this technology is image computing.
Because of the potential for and interest in general-purpose image computing outside the film and entertainment industry, the Computer Graphics Division was spun off from Lucasfilm in February of 1986 and renamed Pixar. At that time the division was acquired by Steven P. Jobs and the employees of Pixar in order to pursue commercial and industrial applications. The entire research and development team made the transition, forming the core R&D team for Pixar.

Even before Pixar became an independent company, a manufacturing team was assembled and began the effort of transforming the Pixar Image Computer from an engineering prototype into a manufacturable and reliable product. Thus within three months of its inception, Pixar was able to begin shipping the Pixar Image Computer to customers.

**MARKET STRATEGY**

Pixar has targeted six markets for the Pixar Image Computer: medical imaging; remote sensing and mapping; seismic imaging; design and animation; graphic arts; and scientific visualization. All of these markets share the need to process and interpret large amounts of image data.

Pixar is building a presence in these markets by selling directly to universities and research and development organizations that push the technology to create new commercial applications and by developing key OEM, VAR and remarketing partnerships with companies that have the intimate knowledge, software resources and specialized support needed to satisfy end user customers. Since the Pixar Image Computer is an integrated and programmable development system, Pixar’s partners can develop custom applications for their markets.

In its first year Pixar developed strategic partnerships with leading suppliers to the medical imaging, geophysical analysis, image interpretation and mapping, and design and animation markets. These include OEM agreements with Symbolics, Inc., Philips Medical Systems Inc. and Alias Research Inc., and a remarketing agreement with Unisys. Pixar is working actively with additional OEM and VAR partners to develop end-user solutions for its target markets. Pixar shipped many units into R&D environments for tackling hard scientific visualization problems in a variety of disciplines.

In addition to Pixar’s primary focus on supplying products for image computing applications, it also continues its research in computer animation. The company believes this demanding application is invaluable for driving computer graphics technology forward. At the SIGGRAPH ’86 conference, Pixar debuted its animated film *Luxo Jr.* This film tells a touching story of two desk lamps. It has received several international awards and an Academy Award nomination for best short animated film of 1986.

**THE FUTURE**

Pixar is dedicated to providing state-of-the-art technologies for digital visualization. By maintaining its leadership position in computer graphics and image processing research and development, its dedication to quality products, and its support for those products, Pixar will continue to provide innovative and cost-effective solutions for its customers.