Intelligraphics Incorporated

RICHARD F. PUK

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PROFESSIONAL SUMMARY

An expert in computer graphics with a worldwide reputation and over 30 years' successful achievement in the areas of computer graphics research, systems design and development, graphics standards development, and technical management.

EDUCATION

B.S.	Mathematics	University of Arizona	1967
M.S.	Computer Science	Purdue University	1969
Ph.D.	Computer Science	Purdue University	1976

LEADERSHIP POSITIONS

SEDRIS Standards Development

As an active participant in the evolution of the SEDRIS technologies from government prototype to a refined set of International Standards, I have not only edited several of the standards under development but also participated in the design of the integration of the SEDRIS technologies including the Spatial Reference Model (SRM), the Environmental Data Coding Specification (EDCS), and the SEDRIS Data Representation Model (DRM).

H3 Graphics Standards Development

A founding member of H3, the American National Standards Institute (ANSI) accredited committee for computer graphics standards, I have held various positions including Chairman of X3H3.1 and X3H3.4, International Representative of X3H3.1 and X3H3.2, and Head of Delegation to various ISO activities.

ISO Graphics Standards Development

Regular international participation as a technical expert from the United States and as head of the U.S. delegation to ISO/IEC JTC1/SC24 working groups since 1980 including serving as PHIGS Rapporteur, as editor of many ISO standards projects, and currently as ISO/IEC JTC1/SC24/WG6 Convener.

Web3D Consortium

Co-editor of the VRML, H-Anim, and X3D specifications and liaison from ISO/IEC JTC1/SC24 to the Web3D Consortium.

Principal Developer of GCS

The Graphics Compatibility System (GCS) is a portable general-purpose device-independent computer graphics software system which was developed primarily under my supervision. A version known as Template is still being marketed.

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery

Special Interest Group in Graphics (SIGGRAPH)
Special Interest Group in Computer and Human Interaction (SIGCHI)
Special Interest Group in Ada Programming Language (SIGAda)

IEEE

Computer Society
Standards Association

Web3D Consortium (professional member)

Computer Graphics Pioneers

WORK BACKGROUND

Intelligraphics Incorporated—1994-Present

PRESIDENT—I founded Intelligraphics Incorporated as a successor to Puk Consulting Services. Intelligraphics provides computer graphics consulting and design services with an emphasis on computer graphics standards. Clients include or have included Megatek Corporation, Digital Equipment Corporation, the United States Government, the Web3D Consortium, Smart Corporation (smart home systems user interface development), and Yumetech (web graphics development).

Puk Consulting Services—1982-1994

INDEPENDENT CONSULTANT—I provided computer graphics consulting services to a wide variety of customers including Computer Associates, Control Data Corporation, Digital Equipment Corporation, Evans & Sutherland Computer Company, Harris Corporation, and SAI Technology Company, as well as the U.S. Government. Services included advising on new product strategies and approaches, designing new products, designing and/or advising on the incorporation of computer graphics in application systems, preparing detailed specifications of these designs, development of software prototypes. Emphasis is placed in the natural integration of computer graphics functionality in products and

applications with special emphasis on window management system such as Microsoft Windows and the X Window System. Development work is accomplished using C, C++, or Ada.

Megatek Corporation—1979-1982

DIRECTOR OF SOFTWARE DEVELOPMENT and DIRECTOR OF RESEARCH—I was responsible for the design and development of all software as well as sharing in the design of state-of-the-art hardware systems.

Sandia National Laboratories—1976-1979

MEMBER TECHNICAL STAFF—I provided technical computer graphics in-house consulting services, selected computer graphics equipment, and designed, implemented, and/or maintained computer graphics software support packages.

U.S. Army (Rank of Captain)—1969-1973

- Computer Systems Command Liaison Officer to U.S. Military Academy
- Chief Military ADP Instructor for Computer System Command ADP Intern Program
- Chief, Awards Branch, 23rd Infantry Division, Vietnam
- Chief, Computer Branch, HQ U.S. Army Vietnam

PUBLICATIONS

Author or Co-author
- GCS Reference Manual (1977 Edition)
- 2D GCS Implementation Guidelines for Devices (1976)
- 3D GCS Implementation Guidelines for devices (1976; Rev. 1978)
- 3D GCS Host Computer Guidelines (1978)
- Tutorial on GCS Viewing Operations (1979)
- "General Clipping on an Oblique Viewing Frustum", Proceedings of Fourth Annual Conference on Computer Graphics and Interactive Techniques, SIGGRAPH quarterly COMPUTER GRAPHICS, Summer 1977.
- "Integrating Solid Image Capability into a General Purpose Calligraphic Graphics Package", SIGGRAPH '80 Conference Proceedings, XIV (3), July 1980 (with G. Laib and G. Stowell).
- "The PHIGS System", Computer Graphics World, VII(2), February 1984 (with D. Cahn, E. McGinnis, and C. Seum).

ISO/IEC Document Editor
- ISO/IEC 9593-3:1989, PHIGS Binding to Ada International Standard
- ISO/IEC 9593-3:1989/Am1:1994, PHIGS PLUS Binding to Ada International Standard
- ISO/IEC 9592-1:1989/Am2:1995, PHIGS Direct Interpretation Amendment
- ISO/IEC 9592-1:1989/Am3:1995, PHIGS Enhanced Control Amendment

- ISO/IEC 9592-1:1989/Am4:1995, PHIGS Enhanced Input Amendment
- ISO/IEC 9592-2:1989/Am2:1995, PHIGS Archive File Extensions Amendment
- ISO/IEC 9592-3:1989/Am2:1995, PHIGS Archive File Clear Text Encoding Texture Mapping Amendment
- ISO/IEC 9592-4:1992/Am1:1995, PHIGS PLUS Direct Interpretation Amendment
- ISO/IEC 9592-4:1992/Am2:1995, PHIGS PLUS Texture Mapping and Local Input Amendment
- ISO/IEC 9593-4:1991/Am2:1996, PHIGS Amendments Binding to C
- ISO/IEC 14772-1:1997, Virtual Reality Modeling Language (co-editor)
- ISO/IEC 14772-2:2003, Virtual Reality Modeling Language External Authoring Interface (co-editor)
- ISO/IEC 14772-1:1997/Am1:2002, Interoperability Enhancements (co-editor)
- ISO/IEC 18023-1 SEDRIS — Part 1: Functional specification (co-editor) (in development)
- ISO/IEC 18023-2 SEDRIS — Part 2: Abstract transmittal format (in development)
- ISO/IEC 18023-3 SEDRIS — Part 3: Transmittal format binary encoding (in development)
- ISO/IEC 18024-4 SEDRIS language bindings — Part 4: C (in development)
- ISO/IEC 18041-4 EDCS language bindings — Part 4: C (in development)
- ISO/IEC 18042-4 SRM language bindings — Part 4: C (in development)
- ISO/IEC 19774 Humanoid Animation (H-Anim) (co-editor) (in development)
- ISO/IEC 19775-1:2004 Extensible 3D (X3D) — Part 1: Architecture and base components (co-editor)
- ISO/IEC 19775-1:2004/Am1 Extensible 3D (X3D) — Part 1: Architecture and base components — Amendment 1: Additional functionality (co-editor) (in development)
- ISO/IEC 19775-2:2004 Extensible 3D (X3D) — Scene access interface (co-editor)
- ISO/IEC 19776-1 X3D encodings — XML (co-editor)
- ISO/IEC 19776-1/Am1 X3D encodings — XML
- ISO/IEC 19776-2 X3D encodings — Classic VRML (co-editor)
- ISO/IEC 19776-3 X3D encodings — Binary (co-editor) (in development)
- ISO/IEC 19777-1 X3D language bindings — ECMAScript (co-editor) (in development)
- ISO/IEC 19777-2 X3D language bindings — Java (co-editor) (in development)