

## **Chapter 18. Where To Go From Here**

### **Introduction**

The contents of this book have laid the foundations for effective program design and engineering with Prograph CPX language. We've covered a wide range of topics from basic procedural programming to object-oriented programming to user interface implementation, all made simpler and less error-prone with visual iconic programming. However, there are several aspects of Prograph CPX that have not been covered in this book. One such omission is a discussion of the Prograph database library, an additional class library that implements the logic of a relational data base. This is not to imply that this library is trivial or unimportant, just that we made a choice in the writing of this book to discuss only those issues that would be of interest to the majority of programmers. The database classes are discussed in detail in the Prograph manuals.

Another choice made in the preparation of this book was to avoid platform-specific techniques and to concentrate instead on the core platform-independent Prograph language features. Other books focus instead on machine-specific programming in Prograph and we suggest that you consult these books should you need platform-specific programming information.

More importantly, in learning any new programming methodology, having a range of resources at hand is helpful. One important resource is other Prograph CPX programmers who can give you insight into how they approach their Prograph programming tasks. In this final chapter, we will point you to a variety of additional resources to add to your knowledge of visual programming and Prograph CPX, as well as keep abreast of changes in this rapidly evolving field.

### **Books**

#### ***Object-Oriented Analysis and Programming***

- Booch, G., Object-Oriented Analysis and Design, second edition, Benjamin/Cummins Publishing Company, Redwood City, CA, 1994.
- Budd, T., An Introduction to Object-Oriented Programming, Addison-Wesley Publishing Company, Reading, MA, 1991.
- Lewis, T. Object-Oriented Application Frameworks, Manning Publications, Greenwich, CT, 1995.
- Reenskaug, T. Working With Objects, Manning Publications, Greenwich, CT, 1995.

- Rumbaugh, J., Blaha, M., Premerlani, W., Eddy, F., and Lorensen, W., Object-Oriented Modeling and Design, Prentice-Hall, Englewood Cliffs, New Jersey, 1991.
- Schlaer, S. and Mellor, S. Object-Oriented Systems Analysis: Modeling the World in Data, Yourdon Press, Englewood Cliffs, NJ, 1988.
- Schlaer, S. and Mellor, S. Object Lifecycles: Modeling the World in States, Yourdon Press, Englewood Cliffs, NJ, 1992.
- Wirfs-Brock, R., Wilkerson, B., and Wiener, L., Designing Object-Oriented Software, Prentice-Hall, Englewood Cliffs, NJ, 1990.

### ***Visual Programming***

- Burnett, M., Goldberg, A., and Lewis, T., editors, Visual Object-Oriented Programming: Concepts and Environments, Manning Publications, Greenwich, CT, 1995.
- Chang, S.-K., Ichikawa, T., and Ligomenides, P.A., editors, Visual Languages, Plenum Press, New York, 1986.
- Chang, S.-K., editor, Principles of Visual Programming Systems, Prentice-Hall, New York, 1990.
- Glinert, E.P., editor, Visual Programming Environments: Paradigms and Systems, IEEE Computer Society Press, Los Alamitos, CA, 1990.
- Glinert, E.P., editor, Visual Programming Environments: Applications and Issues, IEEE Computer Society Press, Los Alamitos, CA, 1990.
- Shu, N.C., Visual Programming, Van Nostrand Reinhold, New York, 1988.

### ***Prograph CPX Programming***

- Shafer, D., The Power of Prograph CPX, The Reader Network, Redwood City, CA, 1994. A tutorial on programming Macintosh applications in Prograph.
- Cates, H., Prograph CPX Cookbook for the Macintosh, Manning Publications, Greenwich, CT, 1995. Useful Prograph recipes.

## **Journals and Magazines**

### ***Object-Oriented Analysis and Programming***

- Journal of Object-Oriented Programming, SIGS Publications Inc., 588 Broadway, New York, NY 10012. Published bimonthly.
- Object Magazine, SIGS Publications Inc., 588 Broadway, New York, NY 10012. Published bimonthly.

### ***Visual Programming***

- Journal of Visual Languages and Computing, Academic Press, London. Published quarterly.
- IEEE Workshop on Visual Languages, Seattle, WA, IEEE Computer Society Press, 1992.
- IEEE Workshop on Visual Languages, Bergen, Norway, IEEE Computer Society Press, 1993.
- IEEE Workshop on Visual Languages, St. Louis, MO, IEEE Computer Society Press, 1994.

### ***Prograph CPX Programming***

- MacTech Magazine -- The Journal for Macintosh Programmers and Developers, XPlain Corporation, 1617 Pontius Avenue, Second Floor, Los Angeles, CA 90025-9555. This monthly journal has published articles on Prograph CPX programming.
- Visual News -- An Independent Publication Serving the Prograph Community, VPI, 10525 Cozey Court, Forestville, CA 95463-9725. This monthly newsletter is devoted solely to Prograph programming.
- Frameworks. This journal from the now-defunct Software Frameworks Association, an association devoted to object-oriented programming on the Macintosh computer, published a series of articles on Prograph programming by Kurt Schmucker. Back issues of this journal will be available from XPlain Corporation, the publishers of MacTech.

## **Articles and Papers**

### ***Object-Oriented Analysis and Programming***

- Beck, K., Think Like an Object, Unix Review 9(10): 39, 1992. A tutorial on CRC Cards.

- Cardelli, L., and Wegner, P., On Understanding Types, Data Abstraction, and Polymorphism, ACM Computing Surveys 17(4): 475, 1985.
- Cargill, T., CRC Cards, The C++ Report 3(8): 11, 1991.
- Halbert, D., and O'Brien, P., Using Types and Inheritance in Object-Oriented Programming, IEEE Software 4(5): 73, 1988.
- Micallef, J., Encapsulation, Reusability, and Extensibility in Object-Oriented Programming Languages, Journal of Object-Oriented Programming 1(1): 15, 1988.
- Stefik, M., and Bobrow, D., Object-Oriented Programming: Themes and Variations, AI Magazine 6(4): 44, 1986.
- Stroustrup, B., What is Object-Oriented Programming?, IEEE Software 5(3): 10, 1988.
- Thomas, D., What's in an Object?, Byte 14(3): 232, 1989.
- Wirfs-Brock, R., Object-Oriented Frameworks, American Programmer 4(10): 27, 1991.

### ***Visual Programming***

- Ambler, A.L., and Burnett, M., Influence of Visual Technology on the Evolution of Language Environments, IEEE Computing 6(2): 9, 1989.
- Cardelli, L., Two-Dimensional Syntax for Functional Languages, In: Integrated Interactive Computing Systems, North-Holland, 1983, pp. 139-151.
- Cox, P.T and Pietrzykowski, T., Using a Pictorial Representation to Combine Dataflow and Object-orientation in a Language Independent Programming Mechanism, Proceedings of the International Computer Science Conference, 1988, pp. 695-704.
- Golin, E.J., Parsing Visual Languages with Picture Layout Grammars, Journal of Visual Languages and Computing 2(4): 371, 1991.
- Golin, E.J., and Reiss, S.P., The Specification of Visual Language Syntax, Journal of Visual Languages and Computing 1(2): 141, 1990.
- Helm, R., and Marriott, K., A Declarative Specification and Semantics for Visual Languages, Journal of Visual Languages and Computing 2(4): 311, 1991.

- McIntyre, D.W., and Glinert, E.P., Visual Tools for Generating Iconic Programming Environments, In: Proceedings of the 1992 IEEE Workshop on Visual Programming, September 1992, pp. 162-168.
- Myers, B.A., Taxonomies of Visual Programming and Program Visualization, Journal of Visual Languages and Computing 1(1): 97, 1990.

### ***Prograph CPX Programming***

- Kelly, D., Prograph 2.0, MacTutor, 7(1): 62, 1991.
- Kilshaw, T., Two Prograph Primitives, MacTutor, 7(5): 26, 1991.
- Kilshaw, T., Prograph 2.5, MacTutor, 7(12): 50, 1991.
- Kilshaw, T., A Pictorial Button Class in Prograph, MacTech, 9(1): 56, 1993.
- McIvor, R., Radix Sort With Prograph, MacTutor, 7(5): 36, 1991.
- Pietrzykowski, T., Matwin, S., and Muldner, T., The Programming Language Prograph: Yet Another Application of Graphics, Proceedings Graphics Interface '83, Edmonton, Alberta, May 1983, pp. 143-145.
- Schmucker, K., Prograph CPX - A Tutorial, MacTech 10(11): 69, 1994.
- Szpakowski, M., Prograph Raises OOP To New Height, MacTutor, 5(7): 66, 1989.

## **The Internet**

### ***Object-Oriented Analysis and Programming***

- comp.lang.oop -- The Usenet newsgroup on object-oriented programming languages.

### ***Visual Programming***

- comp.lang.visual -- The Usenet newsgroup on visual programming languages.
- <http://union.ncsa.uiuc.edu/computing/visual.html> -- The World-Wide Web's page listing answers to frequently-asked questions about visual programming languages.
- swarm.cs.wustl.edu -- The FTP site for a database listing every paper delivered at the Symposium on Visual Languages for the past ten years may be obtained from the /pub/VL84-94 directory.

### ***Prograph CPX Programming***

- [comp.lang.prograph](http://comp.lang.prograph) -- The Usenet newsgroup on the Prograph programming language.
- <http://msor0.ex.ac.uk/PrographFAQ.html> -- The World-Wide Web's page listing answers to frequently-asked questions about the Prograph programming language.
- [http://msor0.ex.ac.uk/Prograph\\_Talk/StartTalk.html](http://msor0.ex.ac.uk/Prograph_Talk/StartTalk.html) -- The World-Wide Web's page containing lecture notes describing the benefits of the Prograph programming language.
- Prograph discussion group -- To subscribe, e-mail to *info-prograph.iup.edu*.

## **Electronic Bulletin Boards**

### ***Object-Oriented Analysis and Programming***

- BIX (The Byte Information Exchange). This BBS, available from Byte Magazine, maintains a section on object-oriented programming.

### ***Prograph CPX Programming***

- Prograph BBS. Pictorius' bulletin board service using a First Class server that can be reached at (902) 455-6616.
- America Online. Prograph International maintains a section on Prograph CPX programming, complete with code examples and updates.
- AppleLink. Prograph International maintains a section on Prograph CPX programming, complete with code examples and updates.

## **Other Sources**

### ***Prograph CPX Programming***

- Prograph Developers Network. A regular update series for Prograph CPX distributed on CD-ROM. The CD also includes example code, demos of commercial code libraries and products built with Prograph, and articles on Prograph. Available from Prograph International.