PASCAL USER'S GROUP

USER'S

GROUP

PASCAL NEWSLETTER

NUMBER 6

COMMUNICATIONS ABOUT THE PROGRAMMING LANGUAGE PASCAL BY PASCALERS

NOVEMBER, 1976

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POLICY -- PASCAL USER'S GROUP AND PASCAL NEWSLETTER

USER'S GROUP POLICIES

Purposes - are to promote the use of the programming language Pascal as well as the
ideas behind Pascal. Pascal is a practical language with a small, systematic
and general purpose structure being used for:

* teaching programming concepts
* developing reliable "production" software
* implementing software efficiently on today's machines
* writing portable software

Membership - is open to anyone: particularly the Pascal user, teacher, maintainer,
implementor, distributor, or just plain fan. Institutional memberships,
especially libraries, are encouraged. Membership is per academic year ending
June 30. Anyone joining for a particular year will receive all 4 quarterly
issues of *Pascal Newsletter* for that year. (In other words, back issues are
sent automatically.) First time members receive a receipt for membership;
renewers do not to save PUG postage.

Cost of membership per academic year is $4 and may be sent to:
Pascal User's Group/ %Andy Mickel/University Computer Center/ University of
Minnesota/Minneapolis, MN 55455 USA/ phone: (612) 376-7290
In the United Kingdom, send £2.50 to:
Pascal Users' Group/ %Judy Mullins/Mathematics Department/The University/
SOUTHAMPTON/SO9 5NH/United Kingdom/ (telephone 0703-559122 x2387)

NEWSLETTER POLICIES

The *Pascal Newsletter* the official but informal publication of the User's Group. It
is produced quarterly (usually September, November, February, and May). A
complete membership list is printed in the November issue. Single back
issues are available for $1 each. Out of print: #s 1,2,3
#4 available from George Richmond/Computing Center/U of Colorado/Boulder/80309

The contribution by PUG members of ideas, queries, articles, letters, and opinions for
the *Newsletter* is important. Articles and notices concern: Pascal
philosophy, the use of Pascal as a teaching tool, uses of Pascal at different
computer installations, portable (applications) program exchange, how to
promote Pascal usage, and important events (meetings, publications, etc.).

Implementation information for the programming language Pascal on different computer
systems is provided in the *Newsletter* out of the necessity to spread the use
of Pascal. This includes contacts for maintainers, documentors, and
distributors of a given implementation as well as where to send bug reports.
Both qualitative and quantitative descriptions for a given implementation are
publicized. Proposed extensions to Standard Pascal for users of a given
implementation are aired. Announcements are made of the availability of new
program writing tools for a Pascal environment.

Miscellaneous features include bibliographies, questionaires, and membership lists.
Editor's notes are in Pascal style comments (**).

WRITTEN INFORMATION FOR THE *Newsletter* IS EASIER TO PRINT IF YOU TYPE
ALL MATERIAL 1½ OR DOUBLE SPACED SO THAT IT IS IN "CAMERA-READY" AND
"PHOTO-REDUCIBLE" FORM FOR THE PRINTER. REMEMBER, ALL LETTERS TO US WILL
BE PRINTED IN THE *Newsletter* UNLESS THEY CONTAIN A REQUEST TO THE CONTRARY.
AN OVERRIDING GUIDE SEEN IN AN OLD "AD" MAGAZINE APPLIES! "all the news that
fits, we print!" - Andy Mickel, editor, John P. Strait, associate editor. Nov. 10, 1976.

UNIVERSITY OF MINNESOTA
TWIN CITIES

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PART I - Standards

Wow! It took only one issue of PUG's Pascal Newsletter to bring on an avalanche of "Where do we go from here?"s! It was first put clearly in print with a short note in PUGN #3 by George Poonen who noted that various implementations had diverged and that a standard was necessary. Now we have: Tony Addyman, Frank Brewster, Charles Hedrick, and Willett Kempton (see News in HERE AND THERE); Mike Schneider, Rich Cichelli, and Arthur Sale (see ARTICLES); and Steve Young, Tony Addyman (again), Duke Haiduk, Judy Mullins, Arthur Sale (again), and Tim Bonham (see OPEN FORUM) all discussing the topic of standards. The concern, I believe, is out of our desire to see Pascal succeed. We are in a computing environment which is not altogether friendly to Pascal. We want to be able to respectably use Pascal in the future.

I have been very confused on the subject of Pascal standards in the past. Mike Schneider and Rich Cichelli have (I think) straightened me out. You see, I thought we already had a Standard Pascal, with the Revised Report and the Axiomatic Definition. These two concise and elegant (although not perfect - but yet what do you want?) documents were produced by Niklaus Wirth and his associates and coworkers. And I believe that Pascal has merit because it was produced by a single man of the calibre of Niklaus Wirth, who (as evident from his work) profoundly understands programming language design, from linguistics to implementation. This one person could decide what to meld when meeting all of the design goals set out from the start. I wanted to do what I could to call for adherence to what Niklaus Wirth called "Standard Pascal". Because with time, I increasingly appreciated what he had written in several articles. He pointed out for example that certain "favorite features" had to be omitted in order to meet the design goals of a small and efficient system. Also that some aspects were best left undefined. And that other features were omitted with good reason to achieve the goal of providing a tool with which to produce reliable software (okay - you could call it: "protect the error-prone human programmer from himself or herself." It may not be pleasant, but experiencing is believing; a good dose of egoless programming goes well with this.) It goes without saying that Pascal is not the ultimate programming language, or perfect, or that it is all things to all people. All good so far.

EDITOR'S CONTRIBUTION

But then other events took place. The Revised Report suffered "revisionism": Nov., 1972, July, 1973, Dec., 1973, the User Manual and Report, first edition (1974), second edition, first printing (1975), and now the second edition, third printing (1976). How can one call for adherence to the "standard" when the same(?) "standard" keeps changing?

Also among the many ill-conceived suggestions for "improvements" to the language by users, there were some very few that seemed reasonable to dyed—in-the-wool Pascalers. There was no mechanism for sounding these out for worthiness and acceptance, save writing to Niklaus and Urs in Zurich. This has been very frustrating because we didn't know where we were heading. (What was Pascal's future destined to be according to its creators?) We were told on the one hand, "no more changes." We relaxed and said "fine." Then a revision came along and we felt cheated. We weren't kept informed of what other users had suggested, either.

Rich and Mike have pointed out that Pascal can't continue to be what Niklaus Wirth says it is. And that Andy Mickel can't arbitrarily restrain attempts to change it because 1) Andy fears destruction of the language by attempts to "save" it, or 2) Andy doesn't want them to destroy the essential simplicity of Pascal which is probably its most likely reason for success. They also pointed out that we don't have an officially accepted standard; a "political standard" if you will. Really, when that concept dawned on me it made sense. A major computer manufacturer, when choosing a common language for all its software development, democratically decided to pick the one that most of its programmers wanted to use. With the choice of language X 30%, Pascal version A 25%, Pascal version B 13%, and Pascal version C 27%, language X won by a plurality (and by default!) and too bad - as we all can see. If we want Pascal to ultimately and completely succeed, we can't have this!

Now how do we resolve the conflict(s)? Many persons suggest a "PUG Standards Committee"; and frankly, although I think committees are inherently evil; I don't see any other choice. The alternative at this point is to lower our expectations, quit striving for excellence, quit "dreaming the impossible dream" of seeing Pascal take over the majority of industrial and academic computing (wiping out Cobol and Fortran within our lifetimes).[*] Then we could say regretfully - "wow, Pascal's nice, but..." as so many of our half-hearted supporters and critics do now.

I feel that: 1) we should continue to debate this topic; 2) a PUG Standards Committee when set up should be small (less than 8 members); 3) its charter be initially agreed on so as to limit its power; 4) within the committee's initial charge

[*] This brings to mind two acronyms: John Easton's SHAFT or Society to Help Abolish Fortran Teaching, and Mitch Wand's ACS or the American Cobol Society - analogous in meaning to the American Cancer Society.

EDITOR'S CONTRIBUTION

the action should be to get the Revised Report (User Manual and Report, Second Edition third printing) accepted as an official standard as is (even if only provisionally); 5) later the committee could recommend subsequent actions.

Look up the articles in this issue of PUG Newsletter by Mike and Rich with their excellent analyses of the current situation. Rich bluntly hints that many features are best left to separate software writing tools. In all honesty, I don't see how Arthur Sale can say in his October 22 letter to Judy Mullins, "Of course I agree that standard Pascal must be adhered to" and also say that it is best in specific cases to add features that all Burroughs Algol programmers are used to. Pascal was meant to be a departure from the past. See also the article "Experience from the Standardization of the SIMULA Programming Language", by Jacob Palme, SOFTWARE, Practice and Experience Vol. 6, No. 3 July-Sept, 1976, pp 405-409. (It seems that each issue of SOFTWARE, Practice and Experience always has some good articles for the practical programmer!)

We are indeed in a unique position in computer science history as people (rather than large organizations) responsibly influencing an influential language.

PART II - Pascal User's Group and Pascal Newsletter

1) PUG has 516 members in 22 countries and 43 states. (We had 317 at last writing.) I'm sorry this newsletter is so late. But this year the November issue will have in it feedback to the September issue.

2) Ms. Judy Mullins and Prof. D. W. Barron of the University of Southampton have done us all a favor by creating a European distribution center for PUG newsletters and a clearing house for PUG memberships in the United Kingdom. Judy was concerned that members in the U.K. would not get fast mail service, while at the same time having to pay a relatively high exchange rate for $4. We in fact had decided to send the first 2 newsletters (#5 & #6) air mail because we could afford it and Pascal needed the shot in the arm. What has transpired between Southampton and Minnesota is no less than 6 letters east to west and 5 letters and a phone call west to east on the subject of cheaper ways to send the newsletters (air freight, etc.) These 11 letters are not reproduced here; they mostly contained calculations and mechanics of mailing.

3) While we are on the subject of finances, I'm happy to report that we're doing just about right. We've been able to afford to send out 250 issues of #4, and do a large mailout requesting implementation information. We still plan to print and mail #7 and #8, so don't worry. The next sheet contains a breakdown:

516 members @ $4	$2064.00	
8 members not paid yet -	32.00	
6 members for 2 years	24.00	extra
1 member for 5 years	16.00	extra
ABM + JPS contribution	29.00	
	$2101.00	Total Assets

postage, mass mailings	$ 52.00	
refunds for overpayment	4.00	
printing and mailing #5	487.10	(700 printed, 368 mailed)
buying 230 copies of #4	100.00	no bill for mailing yet
postage for #5 backissues	27.40	so far
printing newsletter titles	5.60	
	$676.10	Total Expenses

Theoretical balance = 2101.00 - 676.10 = 1424.90

Cash on hand	$ 77.76
PUG UCC Account	$1353.30
Actual balance =	$1431.06

4) Backissues. See the section in HERE AND THERE. Our offer to send #4 to persons in North America who didn't already get one directly from George Richmond expired on October 2nd. We simply ran out. But we did buy time. And now the problem of trying to include information in #6 that was in #4 is not so acute because #6, #7, and #8 will gradually make up for that. We will be updating nearly all the news which appeared in #4. So for those of you who joined after October 2nd and still want the newsletter #4, order one from George Richmond.

5) I apologize for announcing our policy of: "all the news that fits, we print" in the same issue that we put the policy into practice. We modelled the policy after SIGPLAN Notices. Feedback to Newsletter #5 has been mostly favorable; the unfavorable comments have been largely unwritten. Some heretofore unwritten comments went like this:

"Your organization could be improved."
"It was fun reading the News section in HERE AND THERE."
"It's good to see the correspondence you had with Zurich."
"It's taken a long time to get my newsletter in the mail."
"The articles you printed weren't so hot."

6) Last issue we tried to plan events so that you would receive the newsletter at the beginning of September. But we didn't come close. Our cutoff date for material was supposed to be July 15, but it lagged to July 31. We began putting the newsletter together July 4. We went to press August 13 (and here's the bad news) 28 days later we got our 700 copies on September 7. We had it all in the mail September 9. In the U.S. we know (so far) that some arrived as late as October 2! This issue will probably arrive by Christmas (no kidding) but we began November 4 to put it together and we are going to press November 15 - much better than last time, except we have a late start. Our cutoff for material for this issue was originally October 1 but lagged to November 5. Issue #7 will probably be smaller as it will go to press probably before we get reaction to this issue. By being smaller, it also won't cost as much to print.

7) Offers to help. In #5, N. Solntseff and W. Richard Stevens offered to help with the User's Group. Now that some things have been established, several tasks are becoming clear. These are:

. managing distribution of software writing tools for Pascal written in standard Pascal

. managing distribution or cataloging of library and applications programs for Pascal written in standard Pascal

. maintaining a bibliography on all publications about Pascal (including articles and books)

Any takers?

8) Two encouraging trends. First, with microprocessor interest spreading (real computer power to the people!) it is important to have a Pascal subset compete with BASIC in 16K. Mark Rustad understands this very well - see his Motorola 6800 description in IMPLEMENTATION NOTES. Mark would like to hear from those persons interested. Second, John and I have been getting lots of inquiries about Pascal and implementations in the form of phone calls and letters - with most of them from persons in industry. Predominate are small software writing firms and minicomputer companies. So next time someone says Pascal is okay, but it's not "real world" tell them that it's happening right now.

9) Thanx are due to all the people who have sent in information to print - that makes the newsletter. Thanx to John, Tim Bonham, Jim Miner, and Herb Rubenstein for helping put together this issue.

-Andy

November 14, 1976

ANNOUNCEMENT OF A PASCAL USERS' GROUP

DISTRIBUTION CENTRE IN THE

UNITED KINGDOM

AIMS

1. To expedite distribution of the P.U.G. Newsletter to the U.K. and the rest of Europe, the Near and Middle East and Northern Africa.

2. To collect memberships in P.U.G. from U.K. members avoiding high bank charges on transfers of £ to $.

DISTRIBUTION

1. Central P.U.G. at Minnesota will send the original of the newsletter to Southampton for reprinting.

2. Newsletters will be mailed (second-class postage) from Southampton to members in Europe, the Near and Middle East and Northern Africa.

PASCAL USERS' GROUP MEMBERSHIPS

1. The address for U.K. Region memberships is

         Pascal Users' Group
         c/o Judy Mullins
         Mathematics Department
         The University
         SOUTHAMPTON.   SO9 5NH

         (telephone 0703-559122 x2387)

2. Members can pay £2.50 by cheque or postal order to, PASCAL USERS' GROUP (UK) at the above address, and will receive a receipt and member certificate directly.

3. Membership forms will be forwarded at short intervals to Minnesota (at least in time to catch the next newsletter); a copy is kept at Southampton.

AVOIDING CONFUSION

1. There is only one membership list and labelling program - Minnesota's.

2. Therefore anyone can join directly by writing to the U.S.A.

3. Using the U.K. Distribution Centre only saves money.

4. No matter how he/she joined, a member with an address in the U.K. will receive newsletters via Southampton.

5. All correspondence other than subscriptions (such as change of address, articles for the newsletter, or questions about compilers) must go direct to Minnesota. If it inadvertently arrives at Southampton it will be sent on by airmail.

August, 1976.   J.M. Mullins.

Rev. November, 1976.   A.B. Mickel.

NEWS (ALPHABETICAL BY LAST NAME)

A. M. Addyman, Department of Computer Science, The University, Manchester M13 9PL
United Kingdom (PUG member): "I would like to join the Pascal Users' Group.
Also, I am engaged in an effort to have Pascal standardised by a major
standard's organisation, e.g. ANSI or ISO. How may I use your newsletter to
contact people who would be interested in this, or alternatively to discover
that there is considerable opposition" (*9/10/76*)

Urs Ammann, Institut fur Informatik, ETH - Zentrum, CH-8092 Zurich, Switzerland
(PUG member): "...By the way: What is your philosophy with the letters you
received as to their publication in the Newsletter? I was somewhat astonished
to see private correspondence in it. While I agree that this kind of
information distribution makes editorship most easy, it is my strong opinion
that any letter which is not explicitly marked as "letter to the editor" should
not be published in full length, since this clearly exceeds or even
contradictes (sic) the purpose of private correspondence.
"Please don't misinterpret this statement! I have nothing against transparency,
on the contrary! Any information of general interest you find in your
correspondence should be passed on. But you will agree that with some effort
from the editor, information can be passed on without letting everybody read
private correspondence...." (*9/29/76*)

Diosdado P. Banatao, 3060 Bilbo Drive, San Jose, CA 95121 (PUG member): "I
would like to be a member of the Pascal Users Group... My interests are in
microprocessors and microcomputers and involved in both hardware and software
design...." (*10/10/76*)

Philip N. Bergstrasser, 128 Jackson Ave., Madison, AL 35758 (PUG member): "We
at TRW Systems are using Pascal on the CDC 7600, CDC 6400 and TI-ASC and claim
the Guinness record for program size." (*9/21/76*)

Frank M. Brewster, 4701 Kenmore Ave #1009, Alexandria, VA 22304 (PUG member):
"...It's been pointed out that many BASICs are 'non-standard'. I have yet to
hear anyone ask, 'Why?'. The answer seems obvious: the language initially didn't
have 'legal' provision for many of the users' real problems. The current ANSI
BASIC proposal still demonstrates this failing. E.g., the CHR and SEQ(or ORD)
functions are optional; how can anyone do general work without these functions?
So BASICs will continue to be 'non-standard', as people fill in the gaps. If a
car were sold without say, steering wheel, no one should complain if a buyer adds
a tiller. The point is that if the automotive designer finds steering wheels
uninteresting and refuses to specify them as standard equipment, the user has
two options (assuming he buys the car in spite of its failings): design his own
steering apparatus, or cooperate with others in filling the gap in the 'standard'.
If the designer won't see the issue, users will. The letters in the newsletter
mention, e.g., appby hassling and formatting input problems. Apparently Wirth's
not concerned. If you and others do nothing, then everybody either abandons
Pascal or invents their own wheel (tiller?). But why don't those of you with
early and practical experience with the language-
-list your complaints & problems, ranked, one list per man. (Maybe in a newsletter
   section, 'What's wrong with Pascal?'?)
-compare notes for similarities
-see if you can agree on solutions to any of these
-implement experimental changes; test till working
-promulgate as PUG-US 'extensions'
"The last item is the tackiest one. "A camel is a horse designed by a committee."
Standards - the real ones, in actual use - are designed by those who are actually
working in the field, in the course of their work. So if you and other of the
few presently experienced Pascal users won't add to or alter Wirth's
pronouncements, don't be surprised at the later irreverence of others.
"All of you (me too someday) may owe a lot to Wirth. His opinions deserve
respect and attention. But if he's to be treated as God, and his language as the
ten commandments, how can Pascal be improved? The time to 'standardize' is not
now, but after user problems have been faced frankly, and solutions found..."
(*10/09/76*)

C. E. Bridge, E.I. Du Pont de Nemours & Co.; Engineering Development Lab, 101
Beech Street, Wilmington, DE 19898 (PUG member): "Have: PDP-11 series machines:
04, 05, 10, 15, 20, 40, 45. Using: (1) Prof. Per Brinch Hansen Solo Pascal
Compilers, (2) University of Illinois DOS V4 Pascal Compiler, (3) Pascal P2
System.
"All of the above systems have their drawbacks. My interest is in a better
transportable system for use on μCPU applications. I am very happy with the
CDC 6000 version 3.4 at Purdue University; however, achieving the same degree
of performance on a mini-computer has been and will continue to be a challenge
Mr. Stephen C. Schwarm, a coworker, is in the process of starting a DECUS
SIG PASCAL for PDP users of Pascal." (*9/13/76*)

HERE AND THERE WITH PASCAL
(NEWS FROM MEMBERS, CONFERENCES, NEW BOOKS, APPLICATIONS PROGRAMS, ETC.)

HERE AND THERE WITH PASCAL

K. Frankowski, Computer Science Dept., 114 Lind Hall, University of Minnesota, Minneapolis, MN 55455 (PUG member): "If one wants to have formatted input, simply read several integers (if they are run together) in one integer and use div and/or mod to extract the values desired." (*10/15/76*)

Dennis Graham, Amdahl Corp., 1250 E. Arques Ave., Sunnyvale, CA 94086 (PUG member): "I am interested in running Pascal on an Amdahl-470 V/6 system and am contacting the University of Manitoba about their compiler." (*10/26/76*)

David J. Griffiths, Academic Computer Centre, Tyler Hall, University of Rhode Island, West Warwick, RI 02881 (PUG member): "I am investigating the possibility of implementing Pascal on our IBM360-370. Concurrent Pascal would be the ideal, since we wish to investigate more advanced operating systems, however, we are prepared to settle for less." (*10/3/76*)

Donald E. Grimes, 90 Sylvia Street, Arlington, MA 02174 (PUG member): "Congratulations on a timely Newsletter #5, and thanks for your efforts in establishing PUG." (*10/8/76*)

Charles Hedrick, 183 Commerce West, University of Illinois, Urbana, IL 61801 (PUG member): "When considering operational definitions of portability maybe it is useful to distinguish among versions that are:
-machine independent
-semi-machine dependent and concepts universal
-machine dependent and site independent
"The last choice may not be so bad for Pascal to shoot for." (*10/15/76*)

Carl Henry, Computer Center, Carleton College, Northfield, MN 55057 (PUG member) "...We are using...the University of Illinois version (Mickunas, et al) and runs under DOS V4 on an 11/20, (very little use has been made of it so far.).
"A brief description of our facilities: 6 PDP-8s - home brewed version of TSS/8 and OS/8; PDP 11/20 - DOS, RT-11, RSTS V4; PDP-11/40 - RSTS V6, UNIX V6."
(*10/15/76*)

Mark Hersey, 323 Village Drive Apt. 534, East Lansing, MI 48823 (PUG member): "currently modifying P2 version of Janus compiler for readability, fixing bugs, expanding subset processed, and improving portability.
"All work being done on Michigan State University's CDC 6500." (*10/4/76*)

Brian W. Johnson, 1525 Westlake, Plano, TX 75075 (PUG member): "I am particularly interested in µ processor versions. We have it on the PDP-10 and PDP-11 at UT Dallas." (*11/4/76*)

Willett Kempton, 2512 San Gabriel St., Austin, TX 78705 (PUG member): "Thanks for the newsletters. ... I was delighted to see that dynamic array parameters will be implemented in CDC Pascal; this is clearly an extremely important feature, and I would urge that it become a feature of the standard language; rather than an extension available in some implementations (and not others).
"Keep after those implementors to accept standard Pascal programs!!" (*10/27/76*)

C. A. Lang, Cambridge University Press, Pitt Building, Trumpington St., Cambridge CB2 1RP, United Kingdom (PUG member): "We are interested in publishing books concerned with Pascal." (*10/26/76*)

Michael Lutz, School of Computer Science and Technology, Rochester Institute of Technology, Rochester, NY 14623 (PUG member): "...I would also appreciate any information you might have on Pascal implementations for the Xerox (Honeywell) Sigma 5 - 9 and PDP 11 computers. We have both a Sigma 9 and a PDP 11/T34 (with 48K words of memory) here at R.I.T., and we are interested in obtaining Pascal for use in our courses...." (*10/27/76*)

John Montague, Los Alamos Scientific Laboratory, Group C11 - Mail Stop 296, Los Alamos, NM 87545 (PUG member): "...We plan to bring up Pascal on the CRAY-1, probably using the P-code compiler to bootstrap." (*10/18/76*)

Judy Mullins, Computer Studies Group, Department of Mathematics, The University, Southampton SO9 5NH, United Kingdom (PUG member): "...Pascal is alive and happy in Southampton. One hundred nineteen-year-olds are pushing in programs by the hundreds ... and doing amazingly well. I do believe it is the language that is so friendly that increases their interest and output...
"...I was wondering if it would be appropriate to have a section of PUGN for exchange of course ideas, examples etc. This would have to be firmly controlled space-wise, but could prove very informative expecially for universities who have Pascal but don't teach it yet. Later on a survey on the use of Pascal in teaching would be of great interest. Addyman's survey showed Pascal is growing and therefore its growth should be monitored every year.
"Another thought was for book reviews. Pascal primers are beginning to proliferate and we have strong views on the ones we've seen. Once again, to have the right effect this section would need to be controlled, and I'm not sure that we want to start issuing PUG marks of approval or anything like that. However, reviews in normal journals are only opinions and it does seem fitting for opinions of Pascalers on Pascal books to be in the Pascal Newsletter."
(*11/3/76*)

Fred Powell, Computer Center, Mary Baldwin College, Staunton, VA 24401 (PUG member): "We have Pascal P2 and are interested in implementing Pascal on an IBM 1130 and possibly a System 3. Other possibilites include investigating data bases and disk access techniques with Pascal." (*9/24/76*)

Douglas H. Quebbeman, 2235 Lombardy Drive, Jeffersonville, IN 47130, (PUG member): "...Having seen the article in the June '76 Random Bits (Indiana University's Computing Center Newsletter) on the Pascal User's Group, I decided to join. I am a student and part-time operator - programming consultant and have only recently begun using Pascal, but I am quite enthused about its flexibility (especially considering my wrestling bouts with Fortran) and hope to become more proficient in it. So, thanks (for forming the User Group) and I hope to hear from you soon." (*9/24/76*)

Peter A. Rigsbee, Code 5494, Naval Research Laboratory, Washington, DC 20375 (PUG member): "...My connection with Pascal is that my group is trying to get Per Brinch Hansen's SOLO operating system to run on a PDP 11/40, and once this is done, will be using Pascal as a primary systems programming language...." (*8/25/76*)

Sérgio de Mello Schneider, Departamento de Computação, Univ. Federal de S. Carlos, C.P. 384, 13560 S. Carlos SP, Brazil (PUG member): "We have a HP 2100A at our installation (32K words core, 2 disks, 1 tape, DOS) and we are looking for a Pascal compiler. There is no way we can produce one in the next 3 years. Could you help us?" (*10/21/76*)
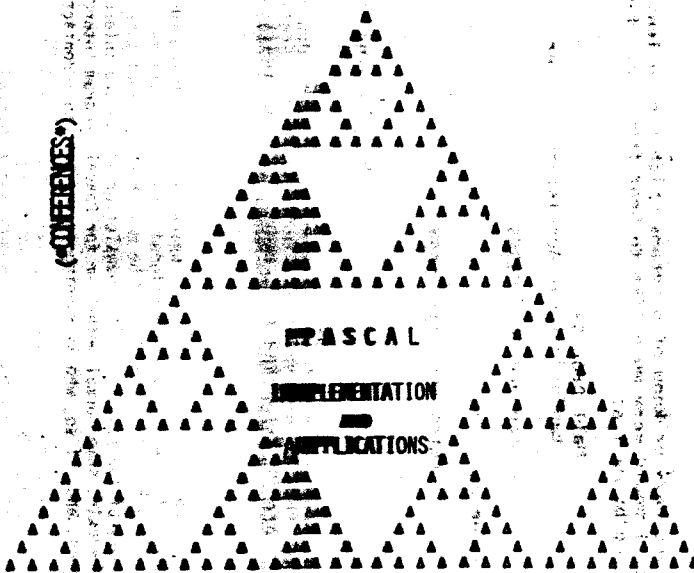
Stephen C. Schwarm, E. I. du Pont de Nemours Co., 101 Beech St., Wilmington, DE 19898 (PUG member): "I am chairman of DECUS SIG Pascal and I will be glad to help with distribution any systems on DEC PDP-11's." (*10/29/76*)

Dave Tarabar, Data General Corp., Field Engineering, 235 Old Connecticut Path, Framingham, MA 01701 (PUG member): "I was very pleased to receive and read the first PUG Pascal Newsletter. It was full of interesting information. The newsletter will be very useful in publishing the correspondence with Zurich and other implementors and your summary of all known implementations was great. Keep up the good work." (*10/18/76*)

William P. Taylor, L-315, University of California, PO Box 808, Livermore, CA 94550 (PUG member): "I am interested in obtaining information about implementations of Pascal on 16-bit mini-computers. I am especially interested in implementations for the PDP-11 as we will be getting one soon. Also, some of my fellow employees here at Lawrence Livermore Laboratory wish to implement a structured programming language like Pascal for system development on a new mini-computer." (*10/3/76*)

APPLICATIONS PROGRAMS

STANFORD UNIVERSITY

STANFORD LINEAR ACCELERATOR CENTER

Mail Address
SLAC, P. O. Box 4349
Stanford, California 94305

18 October, 1976

Request for Programs

Pascal Users:

I am presently doing research on Pascal to determine how various parts of the language are used and what patterns of execution occur in actual programs. This will be similar to a study done by Knuth on Fortran (1).

In this regard I am interested in obtaining a sample of programs from a wide range of users in hopes that the results of this study might be representative of the actual use of Pascal.

If you have or know of programs which can be lent to this effort, I would very much like to hear from you. I can be contacted by mail at

Mail Drop 88
Stanford Linear Accelerator Center
P. O. Box 4349
Stanford, CA. 94305

or by phone at

(415) 854-3300 X2802.

John Banning

(1) D. E. Knuth, "An Empirical Study of FORTRAN Programs", Software Practice and Experience, Vol. 1 (1971), 105-133.

(*Note: John also enclosed a note which said: "With regards to the enclosed request, I expect that the mentioned study will complete sometime in the first quarter of 1977. I would be most happy at that time to provide a summary of the results for the Newsletter if you are interested - ... Does there exist some formal mechanism for Pascal program interchange (between users), and, if so, who is running it and how can I contact them?"*)

THIRD ANNUAL COMPUTER STUDIES SYMPOSIUM

UNIVERSITY of SOUTHAMPTON

PASCAL IMPLEMENTATION AND APPLICATIONS

24 AND 25 MARCH 1977

AIMS

Few languages since FORTRAN have had the same run-away success as Niklaus Wirth's PASCAL, which shows signs of becoming a *de facto* standard for Computer Science teaching and research, as well as pointing the way to a new generation of sparse, simple languages.

The purpose of this symposium is to explore "what's going on" in PASCAL at the present time. Leading authorities will describe new implementations and applications in systems programming, research and education. The symposium will end with an open discussion about the future of PASCAL.

In the tradition of the Southampton symposium, speakers will be allowed ample time for their presentations, together with provision for a discussion at the end of each lecture. Attendance will be kept to 100 and it may be necessary to limit applications from each institution. Applicants are expected to have a working knowledge of PASCAL.

Full preprints of the Proceedings will be available on registration; the Proceedings will subsequently be published in book form.

SYMPOSIUM CHAIRMAN	SYMPOSIUM ORGANIZER
PROFESSOR D.W. BARRON	MISS J.M. MULLINS

SPEAKERS

Dr.Urs Ammann
Technische Hochschulaxe
Zurich
SWITZERLAND

Prof.David Barron
Mathematics Department
The University
SOUTHAMPTON

Dr.Per Brinch Hansen
Computer Science Program
University of Southern
    California
LOS ANGELES

Dr.Barry Hood
Electronics Department
The University
SOUTHAMPTON

Miss Judy Mullins
Computer Studies Group
The University
SOUTHAMPTON

Dr.Mike Rees
Computer Studies Group
The University
SOUTHAMPTON

Dr.David Watt
Computer Science Department
University
GLASGOW

Dr.Graham Webster
Computer Science Department
Teesside Polytechnic
Middlesborough,
CLEVELAND.

Dr.Jim Welsh
Computer Science Department
Queen's University
BELFAST

PROGRAMME

IMPLEMENTATION

Dr.U.Ammann	The Zurich Compilers
Dr.J.Welsh	Two ICL 1900 Compilers
Dr.D.A.Watt	A Diagnostic System
Dr.M.J.Rees	PASCAL on an Advanced Architecture
Miss J.M.Mullins	A PASCAL Machine?

APPLICATION

Dr.P.Brinch Hansen	Concurrent PASCAL
Dr.G.Webster	PASCAL in Education
Dr.B.Hood	PASCAL in Research

THE FUTURE

Panel Discussion introduced by Prof.D.W.Barron

BOOKS AND ARTICLES

(*There has been no news of new books on Pascal. In future issues of the
Newsletter, we should also list current articles appearing in journals and
other computer science literature. Apologies for the void in this section
in this issue.*)

A. M. Addyman and H. R. Addyman, "Which Language?", _Computer Bulletin_,
June, 1976, pp 31-33. [an article which surveys the language
used at various institutions teaching computer science]

(*Last issue there were a couple mistakes in the list of books; these are
corrected below.*)

A Primer on PASCAL by Richard Conway, David Gries, and E. C. Zimmerman,
Winthrop Publishers; 1976; 448 pages; paperbound; $9.95.

Introduction to Problem Solving and Programming with Pascal, by G. Michael
Schneider, Steven W. Weingart, and David M. Perlman, Wiley, to
be published in late 1977. (*A complete soft cover manuscript
will be available March 1, 1977 and may be ordered from Michael
Schneider, Computer Science Department, 114 Lind Hall, University
of Minnesota, Minneapolis, MN 55455. Such copies may be
duplicated(once received) for local use.*)

PASCAL User Manual and Report, by Kathleen Jensen and Niklaus Wirth,
Springer-Verlag, 1974, 1975, 167 pages, paperbound, $5.90.
Second (study) edition. (*This book is selling well; it's in
its third printing which now incorporates the errata that
appears on the next page as reproduced from Newsletter #4. In
Newsletter #5 we printed out of date errata because no one
kindly informed us of anything more up to date. So like the
implementation notes, we are only as good as what people send
us to print. Note that this errata includes the change to the
language Pascal - namely the generalization of the read and
write procedures to perform I/O on files of any type, not just
text files.*)

ARRANGEMENTS

APPLICATIONS must be made on the official form (or
a copy) to reach Southampton by
FRIDAY 18 FEBRUARY 1977
accompanied by full payment of the fee.

COST £45 , inclusive of

- Accommodation on Wednesday and Thursday nights
- Lunches and teas on Thursday and Friday
- Mediaeval Banquet at Beaulieu in the New Forest
- Complete Preprints of the Proceedings.

Applicants from overseas should pay
in sterling by Bankers Draft or International
Money Order.

No Value Added Tax is payable.

ARRIVAL Delegates are expected to arrive on
Wednesday evening as the first session
starts at 0930 on Thursday.

DEPARTURE Transport to the airport will be arranged
after the last session at 1630 on Friday.

ACCOMMODATION will be provided at Chamberlain Hall of
Residence. Further details, addresses and
maps will be sent together with joining instructions
on 25 February 1977.

ALL ENQUIRIES TO

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MATHEMATICS DEPARTMENT,
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TELEPHONE 0703-559122 EXT 733
ASK FOR PASCAL SYMPOSIUM SECRETARY

INTERNATIONAL TELEPHONE
44-703-559122 EXT 733

TELEX 47661

Errata to

PASCAL

User Manual

and Report

Second Edition.

KEY:

p = page number

l = line number

  (blank lines

  are ignored

  and negative

  line numbers

  are counted

  from the

  bottom)

c = code

  (that is:

  r = replace

  i = insert)

p	l	c	
13	-3	r	"if" by "If"
45	-18	r	"<unsigned constant>" by "<constant>"
51	16	r	"(output)" by "(output);"
56	-6	r	"fi" by "f(i)", "g(i+1)" by "g(j+1)", "gi" by "g(j)"
63	2	r	"1" by "n", "2" by "n-1", "3" by "n-2",
			"(n-1)" by "2", "n" by "1"
69	23	r	"stricly" by "strictly"
70	7	r	"i,j" by "i"
77	18	r	" begin inorder(pↀ.llink);" by "begin inorder(pↀ.llink);"
78	-14	r	", <formal" by "; <formal"
81	2	r	"extent" by "extend"
84	-15	r	"as ne" by "as one"
86	8	i	The procedure read can also be used to read from a file f which
			is not a textfile.
			read(f,x)
			in this case stands for
			begin x := fↀ; get(f) and
87	8	i	The procedure write can also be used to write onto a file r
			which is not a textfile.
			write(f,x)
			in this case stands for
			begin fↀ := x; put(f) and
98	10	r	"debby" by "debby ;"
102	7	r	" r" by "or"
102	20	r	"bufffer" by "buffer"
103	-6	r	"scaler" by "scalar"
103	-7	r	" char, and alfa" by "and char are listed"
105	0	r	" " by "105"
105	12	r	" nly" by "only"
105	-1	i	dispose(p,t1,...,tn) can be used to indicate that storage occu-
			pied by the variable pↀ (with tag field
			values t1...tn) is no longer needed.
117		r	(diagram expression) "≤" by "<=", "≥" by ">=", "≠" by "<>"
120	-18	r	"neither be formal nor non local" by
			"not be declared on intermediate level"
121	4	i	177: assignment to function identifier not allowed here
			178: multidefined record variant
			179: X-opt of actual proc/func does not match formal declaration
			180: control variable must not be formal
			181: constant part of address out of range
121	8	i	205: zero string not allowed
			206: integer part of real constant exceeds range
121	-8	i	260: too many exit labels
124	-15	r	"14" by "15"
124	-14	r	"14" by "15"
127	27	r	"10.A" by "4.A"
133	3	r	"two" by "to"
135	5	r	"althought" by "although"
135	30	r	"subtstitute" by "substitute"
140	11	r	"structure type" by "structured type"
161	-17	r	whole line by
			"addition to the procedures get and put. The textfiles these"
161	-16	r	whole line by
			"standard procedures apply to must not necessarily represent"
162	3	r	"and of line" by "end of line"
162	-15	i	The procedure read can also be used to read from a file f which
			is not a textfile. read(f,x) is in this case equivalent to
			x := fↀ; get(f).
162	-6	i	The procedure write can also be used to write onto a file f
			which is not a textfile. write(f,x) is in this case equivalent
			to fↀ := x; put(f).

PAST ISSUES OF PASCAL NEWSLETTER

Reproduced below is a complete description of Newsletters 1; 2; 3; and 4.
Numbers 1, 2, and 3 are out of print, but they did appear in issues of SIGPLAN
Notices, the ACM Special Interest Group on Programming LANguages monthly
journal. Number 4 is available for $1.00 from George H. Richmond, Computing
Center, 3645 Marine Street, University of Colorado, Boulder, CO 80309.

#1 January, 1974 (also SIGPLAN Notices Vol. 9 No. 3 1974 March) 8 pages.

#2 May, 1974 (also SIGPLAN Notices Vol. 9 No. 11 1974 November) 18 pages.

#3 February, 1975 (also SIGPLAN Notices Vol. 11 No. 2 1975 February) 19 pages.

#4 July, 1976 (copies may be obtained for $1.00 from George Richmond,
          the editor, as explained on the previous page) 103 pages.

ROSTER 11/14/76

For our mutual benefit in communication, here is the 516 member PUG roster spanning 22 countries and 43 states. It is sorted (intelligently, we think) by zip (mail) codes (U.S. first) and then alphabetically by country. You can see at a glance who is at a well known organization at a well known place or who is in your area (or on your street!). Now, if you need an index by last name, there is one at the end, cross-referencing with zip (mail) code.

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