New computer language speeds up snail-paced process of programming

"When I use a word," Lewis Carroll said in *Alice in Wonderland*, "it means just what I choose it to mean — neither more nor less."

Unfortunately for computer programmers, the languages they use — especially those designed for personal computers such as Apples and small IBMs — do not communicate with Carroll's gift of gab. WU professor of physics John Scandrett, for one, was so frustrated with existing computer software that he created his own language. Called "FIRST," Scandrett's language is 10 to 70 times faster and much more flexible than previous computer languages used for small business record-keeping functions and data analysis. It is so much faster than current home computer languages that Scandrett admits, "If I hadn't tried it myself, I'd be skeptical."

FIRST was developed by Scandrett and David Hudson, a Ph.D. candidate in physics. The two are convinced that FIRST will have a major impact in the personal computer industry.

One spinoff from FIRST is a solid state camera attachment for computers that its two inventors predict will result in a dramatic drop in the cost of digital imaging in general. Using FIRST as a language, the device feeds visual input into the computer by means of a camera lens and a light-sensitive, 65,000-bit memory chip. The computer can display the camera's picture on a video screen and analyze digital image data. Potential applications include robotics, aids for the blind and burglar alarms.

In describing FIRST, Scandrett explains, "It's based on a kind of Jeffersonian notion. With our system, the user can define his or her own procedures instead of being dictated to."

The computer software market is primed for new ideas and notions. While the cost of hardware has plunged 1,000 percent since the advent of integrated circuits in the late 1950s, the cost of hiring people has risen steadily. The result is that most personal computer owners buy a low-priced standard or "canned" software package that imposes rigidities on the user or a high-priced customized package. Once in operation, either system is difficult to alter.

"There ought to be a way to change your mind or try out a new idea without having a catastrophic effect on the way your computer record-keeping system works," Scandrett thought. After switching focus from high energy nuclear physics to medical physics, particularly image processing, he decided to re-examine the snail-paced process of computer programming.

He found that the most common home computer language, BASIC, is fine for small tasks, but to perform a large job requires a very long program. What if, he and Hudson reasoned, they combined commands that had previously been introduced into the language to create hybrid commands? The result, they conceived, would be comparable to combining the function keys on a calculator.

For example, combining "plus" with "divide" would produce a brand new function: "average." The new function could then take the place of the two old functions and do the job in less time. That process, basically, is how FIRST works.

"Our language does not remain fixed," sums up Scandrett. "The act of programming here is the process of defining hierarchies of new commands."

FIRST was designed specifically for use on the Apple or the new IBM personal computer with a high-speed arithmetical attachment. Scandrett claims his system is 10 times faster than preceding languages. He and Hudson have distributed FIRST to some 100 people, mostly researchers who write their own programs for controlling experiments and analyzing scientific data. They plan to market the system more widely in the future.

Scandrett admits that many personal computer owners, especially small businessmen, are not interested in writing their own programs, and he is currently working out business record-keeping functions using the FIRST concept. One application probably will be semi-customized business programs. But even those who settle for completely standard-

Bears' receiver signs contract with Cardinals

It's a long way from the independent college ranks of NCAA Division III competition to pro football, but if anyone can make the jump, it is WU's Dave Bolton.

The 6-foot-3, 190-pound wide receiver has been making football and track headlines in St. Louis for a hundred-plus years, and on May 19, Bolton created more news when he signed a one-year, free-agent contract with the St. Louis Football Cardinals.

The Ritenour High School graduate already has the mini-camp workouts under his belt, and now is preparing for training camp in July.

Bolton is the first WU player to sign a pro contract since offensive tackle Shelby Jordan was a seventh-round draft choice of the Houston Oilers in 1975. Jordan has been with the New England Patriots since 1974.

Bolton admitted it will be a different situation. "I'll have to get used to competing with people the same size and same speed as me," he said. "But I'm not afraid."

Larry Wilson, the Big Red's director of pro personnel, said the Cardinals had worked with Bolton about 10 days before the draft. "He's got some size and some quickness. He's a kid I wanted."

Bolton has been compared with two of the current Big Red receivers — Dave Streif, because of his size, and Pat Tilley, because of the crisp routes he runs and the grace with which he catches the ball. Bolton's 4.5-second speed for the 40-yard dash makes him faster than both Streif and Tilley.

A four-year starter for the WU Bears, Bolton caught 105 passes in his career for 1,863 yards, averaging 17.7 yards per catch. Included were 14 touchdowns, seven of them in this past year.

Besides being a gridiron star, Bolton is extremely proficient in track.

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Dave Bolton
Tyson Research Center provides hands-on experience for schools

St. Louis city and county science classes took to the woods this semester to gather some first-hand knowledge of wildlife, geology and ecology. Armed with dip nets, empty jars, field guides and dissecting microscopes, the classes went to WU's Tyson Research Center as participants in The School Partnership Program of the St. Louis Public Schools.

The program, funded in part by the federal Emergency School Act, is designed to link businesses, cultural institutions and universities with the public schools in an instructional sense. Some 600 sixth- to twelfth-graders from 14 schools took part in the program's pilot project at Tyson from January through May.

The sessions at Tyson, the University's 2,000-acre wooded preserve south of the city, were not simply field trips, emphasized Pat Bryant, educational coordinator for the research center. "Our goal was solid science," she said. Often traveling with pelican skeletons and skull bones in her purse, she visited each class before its trip to present background material and an introductory lecture. Teachers were provided with study sheets and quizzes for follow-up discussions. She also took time during some of those pre-trip meetings to dispel myths.

"Many of these kids had never been to the woods before. For lots of them, it was a whole, new world. They were surprised not to find pythons and cobras and bears," she said.

Working with Tyson director Richard Coles, she conducted sessions on bird-banding, bats, seed dispersal, wild-flowers, water bodies, orienteering, and oak-hickory forests. The response of the students and teachers, she noted, was overwhelming.

"The original idea was to set up sequences of in-depth trips for a few schools. But so many were interested, that we built up working with most classes just once," Bryant said.

Like Beaumont High school teacher Oscar Williams, who brought his ninth-grade science class to Tyson during its chapter on "Critters and Things," most teachers made a point to integrate the trip into their lesson plans. "There's nothing like giving the students some practical hands-on experience," Williams remarked. "It really adds to their studies."

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In the Division III decathlon, he finished second in the nation in 1979 and won the championship in 1980, making the All-American team both years. In the 1980 event, Bolton was first in the discus throw, the 100-meter dash and the long jump, and tied for first in the pole vault.

A senior who has completed four years of a five-year degree program in mechanical engineering, Bolton studies five to six hours each day, working seven to eight hours before, between and after classes. According to Bears football coach Ken Henderson, "Bolton is a true example of the scholar-athlete. Whatever he does, he does best. He has great natural ability, but worked hard to improve upon it and become a star."

Continued Henderson, "I believe that Bolton's success will show fans in St. Louis that we do play a good brand of college football. Bolton not only represents the University, but the NCAA Division III football teams across the nation. To be drafted in the NFL is the dream of all football players."

Faculty receive tenure

The following faculty members on the Hilltop, Medical and Dental School campuses have received tenure effective July 1, 1982, unless otherwise stated.

Granting of Tenure


Appointment with Tenure

-Arthur T. Denzau, associate professor of economics; Ted Howard Hansen, associate professor of genetics; and James McGarrell, professor of art.

Promotion with Tenure

-Daniel Robert Biello, associate professor of radiology (effective Jan. 1, 1982); Thomas J. Braciale, associate professor of pathology; Seth A. Carlin, associate professor of music; James P. Crane, associate professor of obstetrics and gynecology; Jack L. Coughlan, associate professor of psychiatry; Katherine DeSchrayer, associate professor of pathology; William M. Hart Jr., associate professor of ophthalmology; Rexford L. Hill III, associate professor of computer applications in radiology; Anthony Kolessely Jr., associate professor of medicine; Joseph K. T. Lee, associate professor of radiology; Richard P. MacDermott, associate professor of medicine; Jeffrey Lowell Marsh, associate professor of surgery (plastic and reconstructive surgery); Daniel W. McKeel, associate professor of pathology; J. Philip Miller, associate professor of bioinformatics in preventive medicine; Miljenko V. Pilepich, associate professor of radiology; Ronald C. Stoecker, associate professor of genetics in psychiatry; Bruce J. Walz, associate professor of radiology; and Todd H. Wasserman, associate professor of radiology (effective Jan. 1, 1982).

Emeritus faculty

Seven WU faculty members have been appointed to the rank of emeritus. The appointments are based upon ability and service in recognition of the enrich- ment these scholars have brought to the University, their students and colleagues.

Those appointed to the emeritus rank and the year in which they joined WU are:

Richard Howard Brunell, professor of art (1960); H. Richard Duhme Jr., professor of art (1947); Dorothy Jung Ehchols, professor of earth and planetary sciences (1951); Donald James Hotch, associate professor of health care administration (1954); Stanley Lang, professor of physiology and biophysics (1953); Sol Richard Silverman, professor of audiology in the School of Medicine and professor of audiology in the Department of Speech and Hearing in the Faculty of Arts and Sciences (1945); and Jarvis Aydelotte Thurston, professor of English (1950).
Engineering students design city storm water project

When textbook theory meets fact, the result is often compromise. That was the finding of three WU civil engineering students who volunteered to conduct a storm water study for the city of Eureka, Mo., last semester.

For the study, juniors Robert G. Braun Jr. and Randall L. Rose, and senior Laura E. Mark surveyed a 3,600-acre watershed region near the confluence of Flat Creek and the Meramec River. Under the guidance of Philip L. Gould, professor and chairman of the Department of Civil Engineering, and Richard R. McGuire, local consulting engineer and WU alumnus, they designed two water detention basins and recommended improvements for existing structures. Their proposal is now being reviewed by the city.

"It was a totally different experience from the classroom," said Rose. "We ran into situations where textbook solutions were not practical. When you're working with small projects, you can't always suggest the ideal plan."

The idea of turning the storm water study into a student project was first suggested to James M. McKelvey, dean of the School of Engineering and Applied Science, by Eureka city administrator Lester Baird. McKelvey relayed the idea to the Department of Civil Engineering, where the three students decided to take on the work as an independent study project.

They began in February by surveying the site and taking photos and measurements of existing structures, including bridges, pipes and culverts. They also looked at two lakes, one near six Flags Over Mid-America, and the other near a residential development. Using flood insurance studies from the city as a basis for their analysis, they learned that parts of the area, including a trailer park at Times Beach, would flood with up to six feet of water during periods of heavy rainfall.

Meeting weekly with McGuire for professional advice, they calculated new measurements for replacing some existing structures, and recommended improvements for others.

"We had to work with politics and budget restrictions as well as engineering design principles," said Mark. "While a 50-foot-wide culvert might be best for a certain spot, we knew that wasn't economically feasible." Concluded Braun, "Basically, we got a taste of the practical application of theory."

Pioneers in mental health to give seminars

Three pioneers in the field of mental health will present seminars at WU June 7-11 during the Third Annual Summer Symposium, sponsored by the Continuing Education Program of the George Warren Brown School of Social Work. All three programs in the symposium will be held in Brown Hall Auditorium.

Allan F. Ellis, the originator of Rational-Emotive Therapy (RET) and executive director of the Institute for Rational Living Inc., New York City, will lead a program on "Advanced Application of Rational-Emotive Therapy to Children, Adolescents and Families." The program will be held June 7-8. The RET approach to helping clients cope with anger, shyness, fear and antisocial behavior will be discussed. The fee is $116 or $83 for students.

John H. Weakland, associate director of the Brief Therapy Center, Mental Research Institute, Palo Alto, Calif., will present a program on "Brief Therapy: Applied Therapeutic Communication." June 10-11. A pioneer in cojoint treatment of schizophrenics, Weakland will use video- and audiotaped examples to illustrate the therapeutic approach of the Brief Therapy Center. The fee is $87 or $65 for students.

Discounts for early registration and for registering for all three programs are available. Low cost housing on campus is also available.

For more information, call the Continuing Education Program of the School of Social Work, 889-6636.

Summer grant renewed

The U.S. Department of Health and Human Services has renewed a $10,000 grant to the University. The fund allows talented high school minority students to work full-time during the summer in science and biomedical laboratories on the Hilltop and Medical School campuses. Approximately nine students are participating this summer.

Head of tutoring program retires

Mastering an academic subject is never easy. But try mastering a new language at the same time, and the difficulty factor zooms. Making this feat a little less formidable has been the job of Mimi Huntman, coordinator of the English language tutoring program at the WU International Office.

Huntman, who was honored at a reception on May 16 in the Ann Whitney Olin Women's Building Lounge for 10 years of service in the program, will resign as coordinator this summer. An active member of the Women's Society of Christian Church, she will serve the next year on its board of directors.

All students enrolled at WU are required to have a high level of competency in the English language. Nevertheless, Huntman said that the average international student still needs practice.

"The international students here represent the finest minds in their fields and they are quick to learn. But even though they have a good grammar background, they may have difficulty with pronunciation and English slang. Some of the students in the humanities also need help writing papers at times," Huntman explained.

She added that the spouses of international students often need help in conducting their daily routines. Answering questions on how to use the yellow pages, how to make an emergency call to the police or fire department, or how to find a plumber or doctor can ease their transition.

Huntman earned the M.A. degree in English literature from WU in 1966. Since deciding to resign, she has been busy looking for a replacement for the coordinator position. She urges anyone interested in volunteering as a tutor to contact the International Office at 889-5910.

Consortium to hold program for 100 winners

Seven students from the Greater St. Louis Metropolitan Area and one from the neighboring town of Edwardsville, Ill., are among 100 winners of fellowships provided by the Consortium for Graduate Study in Management. The consortium, sponsored by six universities including WU, will hold the 1982 Orientation Program for the winners at the Holiday Inn-Clayton Plaza June 6-8.

Seven of the eight residents from this region will enroll in the WU Graduate School of Business and Public Administration in the fall for a two-year program of study. They are Rodney L. Crain, Chesterfield; Audrey Robinson Jones, University City; Gloria Mikell, Richmond Heights; Carol M. Morley, Edwardsville, Ill.; Eise F. Sampson, St. Louis; Tanya Jackson Seward, Olivette; and Cornelia Stubbsfieild, St. Louis.

The eighth resident, Joseph M. Salamone, University City, will attend Indiana University.

WU is one of seven sponsoring universities in addition to WU, a founding member of the consortium, are Indiana University, University of North Carolina, University of Rochester, University of Southern California, and University of Wisconsin.

Some 100 firms throughout the country, including six St. Louis-based companies, contribute financial support to the consortium. Local sponsors are Anheuser-Busch Inc., General Dynamics Corp., Monsanto Fund, Pet Inc.,Ralston Purina Co., and the Seven-Up Co. Representatives from these local organizations are among the 110 to 120 corporate representatives who will participate in the three-day orientation program designed to provide the fellowship winners with an overall view of the consortium's procedures and objectives.

Head of tutoring program retires

David B. Bolen, associate director of international affairs, E. I. Du Pont de Nemours & Co., and a veteran of 30 years in the U.S. diplomatic service, will give the keynote address. The program also will feature a speech by William F. Symes, president of the Monsanto Fund, a series of workshops, and a panel of consortium alumni.

Campus Notes

Richard W. Coles, director of Tyson Research Center, has been re-elected to a third two-year term as secretary-treasurer of the Organization of Biological Field Stations in the United States and Canada.

Army ROTC Cadet Paul G. Weaver was honored recently at the fifth annual George C. Marshall Award Conference, at Fort Monroe, Virginia.

Weaver graduated in May from the School of Engineering and Applied Science. He was selected as the most outstanding senior to be commissioned into the Army.
PERFORMING ARTS

FRIDAY, JUNE 4
9 a.m. Department of Cardiothoracic Surgery Lecture, "Reviewing Cardiac Cases," Harvey W. Bender Jr., chairman, dept. of cardius and thoracic surgery, Vanderbilt U. School of Medicine, Nashville, Tenn. Scappellito Aud., 510 S. Kingshighway.


12:15 p.m. American Medical Students Association Lecture by John Travis, author of The Wellness Book for Healthcare Professionals, speaking on various health topics. Cori Aud. and 4575 McHenry.

For more information, call Cori at 772-4691.

THURSDAY, JUNE 10
9 a.m. Washington University's High School Art Workshop, a course for high school students with instruction in drawing, painting, sculpture and design in a variety of media. Through July 16. Fee $100. For information, call WU's School of Fine Arts 889-6306.

WU Dance Workshops for elementary, intermediate and advanced dance students. Taught by Sano Shimzan and Anna Marie Schary, WU arts-in-education. Dance Studio, Mallinckrodt Center. $90 fee. Through July 16. For information call 889-6720 or 889-5585.

TUESDAY, JUNE 15
9 a.m. University of Washington's School of Art, a course for children and teenagers. Classes for children ages 6-7 will meet 1:30 p.m. to 2:30 p.m.; classes for students ages 8-11 will meet 2:45 p.m. to 3:50 p.m. and classes for students ages 12-17 will meet 4 to 5:30 p.m. Course fees are $40. For more information, call 889-5858 or 895-5805. Through July 1.

SUNDAY, JUNE 6
4 p.m. Department of Music Graduates Voice Recital with Bernard Jones, tenor, singing songs of Europe from 1870-1920. Grace Methodist Church, 6199 Wainman.

EXHIBITIONS

"Fools Are My Theme, Let Satire Be My Song," a collection of classical music from Aesop and Aristophanes to Mark Twain and Kurt Vonnegut. Includes a manuscript letter written by Mark Twain and a rare edition of Voltaire's Candide. Special Collections, fifth floor, Olin Library. 8:30 a.m. - 5 p.m. weekdays; 1-5 p.m. weekends. Through Aug. 31.

"Gee Show," a collection of drawings and designs by freshmen and sophomore art students. Bixby Hall Gallery. 9 a.m. - 4 p.m. weekdays. Through Aug. 31.

The WU Gallery of Art in Senicberg Hall will be closed for renovations May 24 through September 30.

MUSIC

FRIDAY, JUNE 11
8:45 p.m. "Little Symphony Concert," with the St. Louis Symphony. Conducted by Gerhard Zen- nemann, associate conductor. St. Louis Symphony, performed by student John Korman, violin, and Joan Korman, viola. Performing works by Roussel, Mozart and Stravinsky. WU Quadrangle. In the event of rain, the concert will be held in Graham Chapel. Season tickets are $15 chair, $10 lawn; $10 chair, $6.50 for students with I.D. Single tickets are $4 chair, $4 lawn, $3.50 chair and $3 lawn for students. Children under 10 are free. Tickets available at Symphony box office, 533-2500.

WEDNESDAY, JUNE 16
8 p.m. National Concert with A Perfect Fifth, a woodwind quintet, performing works by Carl Orff, Paul Hindemith, Mozart and Scott Joplin. Guest players are: Elise Parker, clarinet; Lois Price, flute; Su Sharbono, oboe; Donna Bauer, bassoon; and Diane Jose Hendry, French horn. Galoppe, Mallinckrodt Center. No charge.

FRIDAY, JUNE 18
8:45 p.m. "Little Symphony Concert," with the St. Louis Symphony. Conducted by Catherine Con- vitch, associate conductor. St. Louis Symphony, performed by soloist Peter Bowman, oboe. Performing works by Haydn and Bach. WU Quadrangle. In the event of rain, the concert will be held in Graham Chapel. Single tickets are $6 chair, $4 lawn and $3.50 chair, $3 lawn for students (See June 15 bring for season ticket prices.) Tickets available at Symphony box office, 533-2500.

FRIDAY, JUNE 25
8:45 p.m. "Little Symphony Concert," with the St. Louis Symphony. Conducted by Catherine Con- vitch, associate conductor. St. Louis Symphony, performed by soloist Julie Holzman, piano. Performing works by Stravinsky and Mozart. WU Quadrangle. In the event of rain, the concert will be held in Graham Chapel. Single tickets are $6 chair, $4 lawn and $3.50 chair, $3 lawn for students. Tickets available at Symphony box office, 533-2500.

CHEKHOV PLAYS ACTED

Three one-week plays by Chekhov — "The Marriage Proposal," "The Bear" and "A Celebration" — will be presented at 8 p.m. Thursday, June 10 and Friday, June 11 in the Drama Studio in Mallinckrodt Center. Diana Lee, assistant professor of drama, will direct. Admission is free.

The plays will be the culmination of an intensive three-week rehearsal course taught by Lee. Amy Silverberg is assistant director, Lori Wilder is stage manager and Bryan Abell is lighting designer.

SOCCER CAMP SCHEDULED

Head coach Joe Caretta Jr. heads a staff of outstanding soccer coaches who will conduct the WU's Soccer Camp June 28 through July 2 on the Hilltop campus.

The Indoor-Outdoor Program is open to boys and girls aged 8-17. Tuition is $45. The camp will take place from 9 a.m. until noon each day. For information, call 899-5185.

CALENDAR DEADLINE

The deadline to submit items for the July calendar of the WU Record is June 21. Items must be typed and state time, place, nature of event, sponsor and administration contact. Incomplete items will not be printed. Include speaker name and identification and the role of the event. Those submitting items, please give name and phone number. Address correspondence to Professor Susan Keiling, calendar editor, Box 1142, St. Louis University, 1 Brookings Drive.