Funding for Small US Businesses and from DARPA and NASA

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Abstract

This column is the first of a regular series describing database funding programs in the United States and abroad. I plan to include profiles of major funding agencies and programs, major efforts underway, new calls for proposals, and the outcomes of funding initiatives. I welcome submissions of relevant material; they can be sent to winslett@cs.uiuc.edu. In this issue, I describe funding in the database area for innovative research in small US businesses, and new requests for proposals from DARPA and from NASA.

1. Funding for Small Businesses in the United States

A number of US federal agencies set aside funds for the support of innovative research in small businesses (SBIRs). Eligible firms are for-profit concerns, the majority of whose ownership is by US citizens and/or permanent residents, and which have 500 or fewer employees. These programs all divide their projects into three phases. Phase I offers awards 'to evaluate the scientific and technical merit and feasibility of an idea.' The duration of the award is no more than six months, and the amount of the award is limited to $50,000. Recipients of Phase I awards are then eligible for support in Phase II, which offers awards of up to $500,000 for a duration of up to two years. Phase III involves commercialization of the idea, and does not include funds from the program.

There will be a seminar covering the topics 'How does the SBIR work for you' and 'The experience of an SBIR applicant' in Chicago on January 23, 1992. For more information on the seminar, contact Shedrina High of The Support Center of Chicago, at (312) 606-1530. Also, there will be conferences on US Federal R D opportunities for technology intensive small business concerns on October 30--November 1 (San Diego), November 19--21 (Detroit), and April 27-29, 1992 (Atlanta). For more information on these conferences, call (407) 274-4005.

Support for small business innovative research in the database area is available from a number of federal agencies. I describe below several programs having due dates in the next three months.

Within the Department of Defense, support for database SBIR work is offered by DARPA, the Air Force, and the Navy. The types of proposals of most interest to DARPA are those that match interests of DARPA that are expressed in existing (or future) Broad Agency Announcements (BAAs) from DARPA. Also of high interest are proposals that complement ongoing work funded by DARPA, for example by providing an implementation, an applied demonstration, and even professional documentation of research results. DARPA expects to fund 1,300 Phase I proposals.

The Department of the Navy is offering support for work on 'Data Base Compression/Decompression', 'Rapid Data Access Through Optical Processing', and 'Management Decision-Making Data Base.' The Air Force is interested in 'Automated Librarian', 'Supercomputer Data/Knowledge Bases', and 'Reusable ADA Software Fault Tolerant Components'.

More information on any of the DARPA, Air Force, and Navy projects described above can be obtained by requesting FY92.1 Small Business Innovative Research (SBIR) Phase I

Solicitations from the Defense Technical Information Center at (800) 368-5211 or (703) 274-6902. The next closing date for DARPA SBIR solicitations is January 10, 1992.

The Department of Commerce is offering SBIR funding in the area of 'data and information systems.' The closing date for Phase I proposals is January 15, 1992. For more information, contact the SBIR Program Manager at (301) 763-4240.

The Department of Health and Human Services is offering SBIR funding through the Administration on Children, Youth, and Families for the development of a data entry system for state and local agencies, to use to enter data to be eventually reported to the adoption and foster care information system. The Office of Policy, Planning and Legislation is interested in the design and development of a new case management system to track client cases. The closing date for these Phase I proposals is November 1, 1991. More information can be obtained from Delores Lancaster at (202) 472-3026. Approximately 33 Phase I awards are anticipated.

The National Institutes of Health is offering SBIR funding for information systems software for managerial and clinical components of nursing services, through the National Center for Nursing Research. Contact Dr. Heinrich at (301) 496-0523. The National Library of Medicine at the National Institutes of Health is interested in representation and analysis methods for data from molecular biology, and in the representation and organization of knowledge in computers. Contact Mr. Clepper at (301) 496-4221. The closing date for these proposals is is December 15, 1991; more information from the National Institutes of Health is available at (301) 496-1968.

2. New DARPA Announcement

In late July, DARPA issued a request for proposals for research in advanced software technology and algorithms. The database portion of the solicitation concerned "multilevel stores, high performance access of bulk data, and seamless access to remote data across networks." The deadline for submissions is 4:00 p.m., Friday, December 20, 1991. Excerpts from the announcement, titled 'Research in Advanced Software Technology and Algorithms', appear below.

"The Defense Advanced Research Projects Agency (DARPA) is soliciting proposals for research on various aspects of advanced software technology and algorithms in support of the goals of the DARPA High Performance Computing Program, the DARPA Strategic Computing Program, and the broader Federal High Performance Computing and Communications (HPCC) Program. DARPA, as the DOD lead agency for advanced technology research, will focus on developing the high performance computing (HPC) and networking technologies needed for Defense and overall HPCC. Specifically, in advanced software technology and algorithms, DARPA projects will produce scalable libraries technology, operating systems, programming tools, algorithms, and analysis tools for HPC systems and distributed heterogeneous systems. The intent is to dramatically increase the utility of innovative computers and computer architectures by enabling their use in a workstation/server configuration as well as dedicated or embedded systems and accelerators.

"Proposed research should investigate innovative approaches that lead to or enable revolutionary advances in the state of the art. The research should be directed at advancing the state-of-the-art or increasing knowledge or understanding, rather than focusing on a specific system or hardware solution. Topics of particular interest are computational tools, system software, and computational algorithms for scalable libraries, but proposals outside this scope may also be considered."

The announcement then calls for submissions in the areas of computational algorithms

for scalable libraries and computational tools, which I omit here. In the area of systems software, the announcement says: "High performance machine and architecture independent operating system environments will enable new classes of machine independent applications and services to be developed. These operating systems and environments must efficiently support a range of computational architectures from single processors with limited resources to large multi-computers operating in the billion to trillion operations per second range and managing trillions of bytes of storage. In addition, systems may be composed from homogeneous or heterogeneous computing units connected via various interconnects including:

(1) highly connected, where computing system efficiency and message overhead dominate

(2) loosely connected, where network capacity and latency limitations dominate

(3) poorly connected, where communication may be interrupted and potentially low capacity

(4) intermittently connected, where connection is sporadic and partitions occur regularly

"The technical areas of interest in systems software area are:

(1) Operating systems and services. DARPA has focussed the research over the past several years on the theoretical and practical advance of operating systems. This research has reached basic maturity enabling new research into two areas: (a) new services enabled by the advanced OS architectures such as: secure high performance servers, real-time services, distributed data/file servers, etc., (b) operating system concepts beyond the current state-of-the-art.

(2) Storage services that will enable advancement beyond classical hierarchical file systems or conventional database technology. Emphasis will be on management of multilevel stores, high performance access of bulk data, and seamless access to remote data across networks.

(3) Integrity services enabling cooperation between diverse groups over public networks while maintaining high degree of privacy and integrity.

Technical Point of Contact: LtCol Brian P. Boesch."

Individuals wishing to submit a proposal should request a pamphlet from DARPA, BAA 91-17 Proposer Information, giving submission details. The pamphlet can be requested by electronic mail to baa9117@darpa.mil, or fax to 703-522-2668 (addressed to: BAA91-17). For surface mail, write to

Attn.: BAA 91-17
DARPA, CSTO
3701 N. Fairfax Drive
Arlington, VA 22203-1714.

3. NASA Announcement

NASA requests proposals for basic research in databases, especially in areas "concerning intelligent systems technologies for NASA's aerospace mission applications." The program is open to submissions from industry, academia, and other government agencies. The amount of funding available is $2,000,000, to be divided among one to ten successful proposals. Proposals may be submitted any time before the end of 1992. For more information, contact Pamela Sue Wellons, (415) 604-3585, regarding NRA2-34953.