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Part 2 Identification and Significance of the Innovation and Results of the Phase I Proposal

2.1 Innovation

The proposed innovations are as follows:

(1) Electronic Handbooks (EHBs) are Internet-based tools that support the paperless documentation and management of complex distributed processes (e.g., Grants/Contracts Management). Tools include user interface, backend, requirements capture, and demonstration software.

(2) Processes are represented as "Internet-based plays" where "actors" communicate thru the Internet. For each role, EHBs guide actors thru their parts.

(3) EHBs, like plays, are developed in six stages: Outline or Playwriting, Example or Rehearsal, Implementation or Staging, Utilization or Performance, Revision or New Production, and Cross-Subprocess or Cross-Play Analysis.

The significance of the innovations is that EHBs will:

(1) facilitate the movement from paper processes to paperless processes,

(2) improve end users interactions within complex processes,

(3) foster process, system, and product improvements, and

(4) reduce costs in the overall administration of processes.

No commercial process management system offers all of these facilities and a few systems support only a small fraction of the solution. These innovations will dramatically increase the productivity of organizations involved in managing complex distributed processes. In order to build a process management system which
coordinates many participants and populates and locates information from multiple repositories, supports the viewing of selected documents, and includes commentary, it is necessary to have a common, uniform methodology for capturing the requirements for the entire process; otherwise the data and process becomes too fragmented, complex and costly to develop, enhance, and maintain.

2.2 Results of Phase I Project

During Phase I we accomplished the following tasks:

- **Task 1. Design EHBs User Interface Tools.** Software tools were designed that facilitate the building of the EHBs user interface for different EHBs applications.

- **Task 2. Design EHBs Backend Tools.** Software tools were designed that facilitate the building of the EHBs database interfaces for different EHBs applications.

- **Task 3. Design EHBs Requirements Capture Tools.** Software tools were designed that facilitate the overall building of EHBs applications.

- **Task 4. Design EHBs Demonstration Tools**. Software tools were designed that facilitate the demonstration and/or marketing of EHBs.

During Phase II, our effort will focus on the development of the four types of tools **.**

Part 3 Technical Objectives and Work Plan

3.1 Technical Objectives

The technical objectives of EHBs are to:

1. Facilitate paperless documentation and management of complex distributed processes.

2. Facilitate system development:
    - requirements capture,
    - system design,
    - implementation,
    - multi-developer coordination,
    - software distribution,
    - end-user learning,
    - system documentation,
    - system revisions, and
    - system reuse for similar processes.

3. Facilitate integration of independently developed subsystems.

4. Facilitate process and system improvement.

3.2 Work Plan

3.2.1 Technical Approach

In order to achieve the four objectives described in Part 3 of this proposal, Coney Island, Inc. , has divided the project into four major areas:

- **EHBs User Interface Tools.** These are software tools that facilitate the building of the EHBs user interface for different EHBs applications.

- **EHBs Backend Tools.** These are software tools that facilitate the building of the EHBs database interfaces for different EHBs applications.

- **EHBs Requirements Capture Tools.** These are software tools that facilitate the overall building of EHBs applications.

- **EHBs Demonstration Tools**. These are software tools that facilitate the demonstration and/or marketing of EHBs.

3.2.2 Task Descriptions

During Phase II, our effort will focus on the development of the four types of tools **.**

Task 1. Develop EHBs User Interface Tools

EHBs User Interface Tools are software than facilitate the building of the EHBs user interface for different EHBs applications. The key interface is the User Electronic Handbook (user EHB) for that role. For example, Figure 1 shows a sample user EHB for firms that are submitting applications to the NASA SBIR program.

Each user has an account and password and the EHB keeps track off all of the user's information that he/she needs to know to do his/her subprocess. For example, in the case of a user EHB for firms submitting SBIR proposals, the EHB keeps track of all the incomplete and completed proposals that the user is submitting. In the case of a user EHB for SBIR proposal reviewers, the EHB keeps track of all of the incomplete and complete proposal reviews that the reviewer is assigned.

Each user EHB is architected so that the user is prompted at each stage of the subprocess. This is done to minimize the learning effort involved in using the EHB. It also allows the user to come back after a long period of time and easily return to complete and/or restrart the subprocesses.

Task 2. Develop EHBs Backend Tools

EHBs Backend Tools are software than facilitate the building of the EHBs database interfaces for different EHBs applications. Figure 2 shows a diagram for the EHBs system architecture and shows some of the backend tools that are used to implement EHBs. The set of EHBs Backend Tools includes:

World Wide Web Servers are used to store and maintain all of the web pages used in the implementation of EHBs. These are used by the EHBs to transfer the subparts of the EHBs between the users and the other backend tools. Some examples of World Wide Web Servers are Netscape, Apache, Microsoft IS

Server, etc.

Database Management System Servers are used to store and maintain all of the databases used in the implementation of EHBs. These are used to main the record type data that the user EHBs will update and retrieve. Some examples of Database Management System Servers are Oracle, Sybase, Access, Informix, SQL Server, etc.

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Graphics Report Servers are used to display reports generated from the data in databases used in the implementation of EHBs. These are used to generate graphic reports in the user EHBs with the data from the Database Management System Servers. Some examples of Graphics Report Servers are IDL, Power Point, MS Access, MS Excel, etc.

Legacy Systems are pre-existing or independently built subsystems that can sit "underneath" the user EHBs interfaces. Such legacy systems can be used as database and/or graphic report servers for existing pre-data. Some examples of Legacy Systems are accounting systems, payroll systems, etc.

Middleware Systems are used to store and maintain all of the databases used in the implementation of EHBs. These are used to generate tabular reports in the user EHBs with the data from the Database Management System Servers. These are also used to generate the User EHB pages themselves. Some examples of Middleware systems are DBGenie, Cold Fusion, Java Server Pages, Active Server Pages, etc.

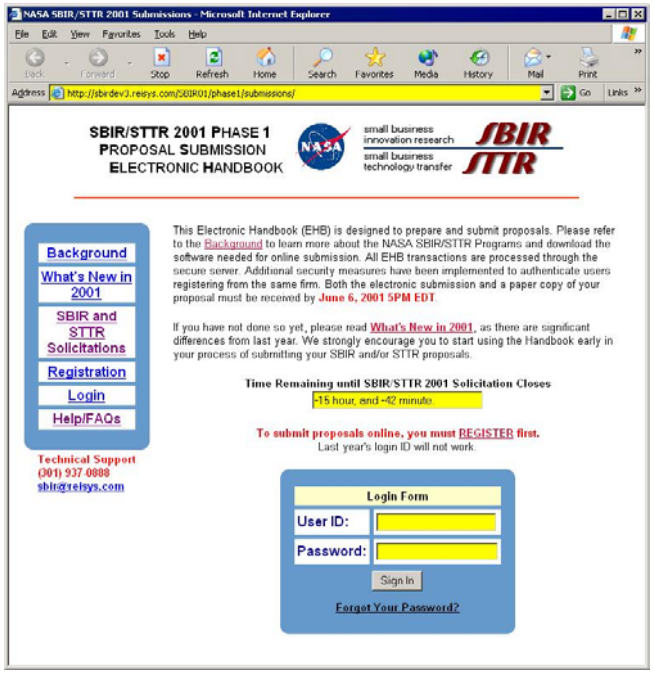


Figure 1. User EHB for firms that are submitting applications to the NASA SBIR program

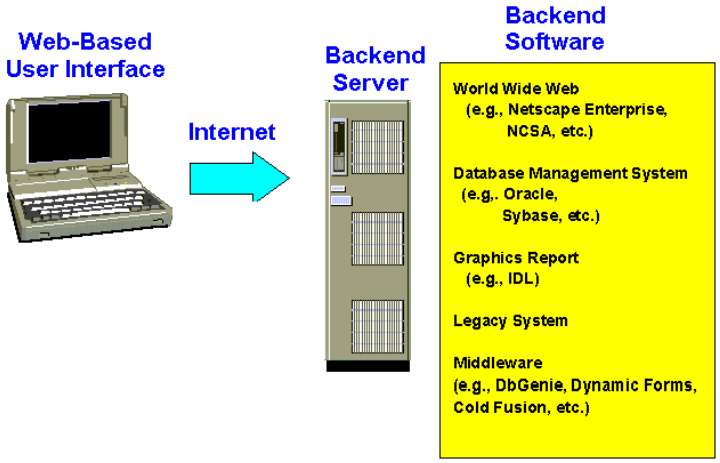


Figure 2. EHB system architecture.

Task 3. Develop EHBs Requirements Capture Tools

Requirements Capture Tool (RCTs) are web pages that define and document subprocesses of a subprocess. RCTs facilitate the overall system development process: requirements capture, system design, implementation, multi-developer coordination, software distribution, end-user learning, system documentation, system revisions, and system reuse for similar processes. Figure 3 shows an example of an RCT which is used to build the NASA SBIR Contract Administration and Closeout Subprocess. The set of web pages in an RCT include:

Binders illustrates all of the data collected during the execution of the subprocess. For example, in the RCT corresponding to NASA SBIR Contract Administration and Closeout Subprocess, there would be links to contract folders and deliverables, contract award file library, deliverables library, and user profiles.

Process illustrates the "play" which defines the subprocess and tells us who produces the parts of the binder and when they produce them. For example, in the RCT corresponding to NASA SBIR Contract Administration and Closeout Subprocess, the subprocess would be a play with the following "acts": 1) Preliminaries, 2) Deliverables, 3) Advisors, 4) Modifications, 5) Closeouts and 6) Analysis. Each act would be a subplay which defines who does what and in what order.

Example User EHBs illustrate for each role exactly what the role does in the subprocess. *Implemented User EHBs* are the user interfaces in the subprocess for each role. For example, in the RCT corresponding to NASA SBIR Contract Administration and Closeout Subprocess, some User EHBs include: Contract Specialist, Principal Investigator/Awardee Official, Contracting Officer Technical Representative (COTR), Advisor, Field Center Program Manager, etc.

Example Home Pages illustrate how the outside user or customer comes into the process and gets their User EHB. *Implemented Home Pages* are used as a public interface for its customers. For example, in the RCT corresponding to NASA SBIR Contract Administration and Closeout Subprocess, the Principal Investigator/Awardee Official would find a link to their user EHB in which they would be able to submit their deliverables and/or approve contract modifications.

Example Files illustrate the internal file structures for the files used to illustrate the Example user EHBs. *Implemented Files* define the file structure of all of the implementation of the EHBs. In both cases, the file structures are divided by roles. For example, in the RCT corresponding to NASA SBIR Contract Administration and Closeout Subprocess, some User EHBs files include: Contract Specialist, Principal Investigator/Awardee Official, Contracting Officer Technical Representative (COTR), Advisor, Field Center Program Manager, etc.

Suggestions provide a vehicle to collect comments and suggestions to improve the subprocess defined in the RCT. For example, in the RCT corresponding to NASA SBIR Contract Administration and Closeout Subprocess, the Sugggestions link could result in an e-mail message to the system developer or an entry into a corresponding suggestions database used by the system developer.

Figure 4 shows an example of a matix of RCTs which correspond to all of the RCTs for the entire NASA SBIR processes.

Task 4. Develop EHBs Demonstration Tools

EHBs Demonstration Tools facilitate the marketing of EHBs. Each EHBs Demonstration Tool is tailored to a particular customer so that the customer sees exactly how EHBs can be applied directly to his/her specific
processes. Figure 5 shows an example of an EHBs demonstration which was used to market EHBs technology to the Health Services Research Administration (HRSA) of the Department of Human Services (HHS). Some items in the EHBs Demonstration Tool are generic (e.g., Other Applications, Architecture, EHBs/RCTs Development Process, EHBs/RCTs Development Roles, and Quiz). Other items in the EHBs Demonstration Tool are customer specific (e.g., What are EHBs?, An Example EHB, Objectives, Requirements Capture Tools (RCTs), Multi-Year Areas RCTs/EHBs, Multi-Year Subprocesses RCTs/EHBs Development Matrix, Benefits, and Documents.)

3.2.3 Meeting the Technical Objectives

EHBs meets the technical objectives outlined in Part 3 as follows:

1. EHBs facilitate paperless documentation and management of complex distributed processes. See Figure 4.

2. EHBs facilitate system development:

    - Requirements Capture Tools (RCTs) reduce requirements capture costs, See Figure 3.
    - RCTs reduce system design costs, See Figure 3. Once the examples are generated in the RCT, much of the design is completed.
    - RCTs + Middleware (e.g., DBGenie, Cold Fusion, etc.) reduce implementation costs, See Figure 3. Once the examples are generated, implementation follows by replacing the example with SQL calls to the database.
    - RCTs reduce multi-developer coordination costs, See Figure 4. Each developer is given their own RCT to design and implement.
    - Web browsers reduce software distribution costs, See Figure 1. EHBs are distributed via the World Wide Web.

- User EHBs reduce end-user learning costs, See Figure 1. EHBs are built so that the user is led to thru the subprocess and does not need training.
- RCTs + Middleware reduce documentation costs, See Figure 3. Each RCT represents a complete set of documentation for that subprocess.
- RCTs + Middleware reduce revision costs , See Figure 3. By changing the examples in the RCT and presenting them to the owner, the revision can be validated. When the examples are approved, the implementation can be correspondingly adjusted.
- RCTs + Middleware facilitate system reuse for similar processes. See Figure 4. Different RCT subprocesses can be copied and reused for similar subprocesses

3. EHBs and RCTs facilitate integration of independently developed subsystems, See Figure 4. The matrix of subprocess lets one look at all existing subprocesses. This will lead to integration of user interfaces followed by integration of backends.

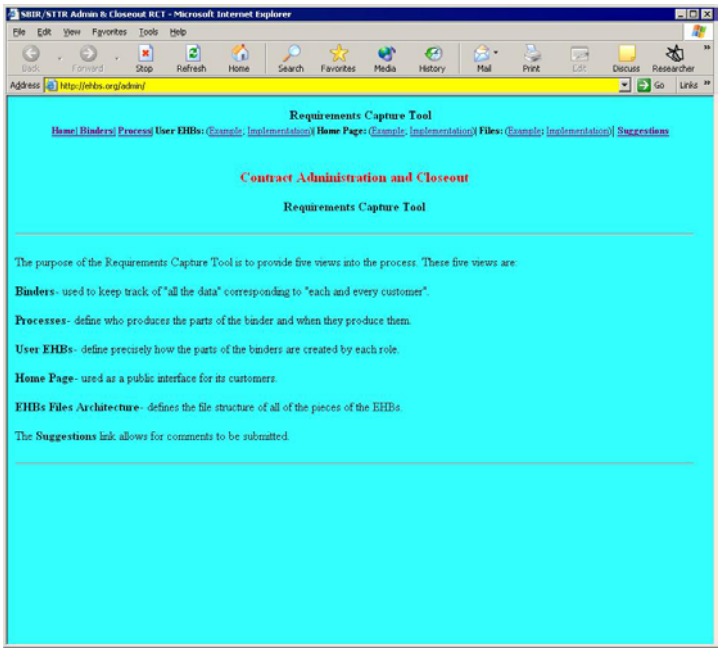
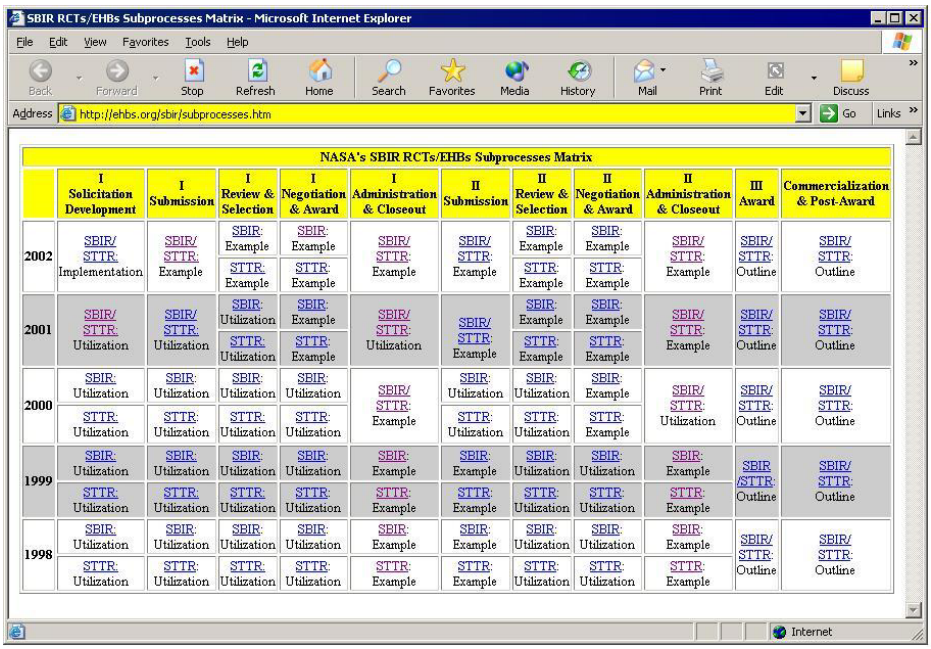


Figure 3. NASA SBIR Contract Administration and Closeout Process RCT.



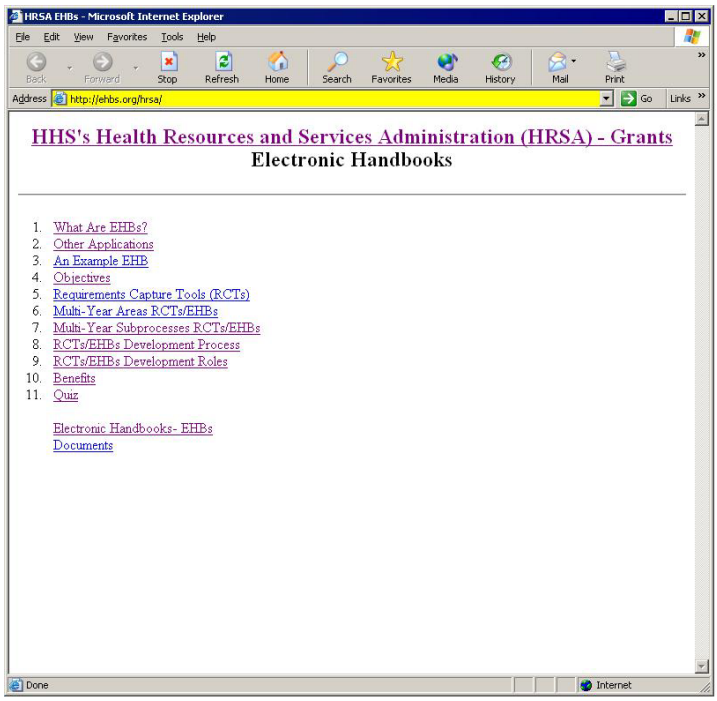
SBIR RCTs/EHBs Subprocesses Matrix - Microsoft Internet Explorer

http://ehbs.org/sbir/subprocesses.htm

NASA's SBIR RCTs/EHBs Subprocesses Matrix

	I Solicitation Development	I Submission	I Review & Selection	I Negotiation & Award	I Administration & Closeout	II Submission	II Review & Selection	II Negotiation & Award	II Administration & Closeout	III Award	Commercialization & Post-Award
2002	SBIR/ STTR: Implementation	SBIR/ STTR: Example	SBIR: Example STTR: Example	SBIR: Example STTR: Example	SBIR/ STTR: Example	SBIR/ STTR: Example	SBIR: Example STTR: Example	SBIR: Example STTR: Example	SBIR/ STTR: Example	SBIR/ STTR: Outline	SBIR/ STTR: Outline
2001	SBIR/ STTR: Utilization	SBIR/ STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Example STTR: Example	SBIR/ STTR: Utilization	SBIR/ STTR: Example	SBIR: Example STTR: Example	SBIR: Example STTR: Example	SBIR/ STTR: Example	SBIR/ STTR: Outline	SBIR/ STTR: Outline
2000	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR/ STTR: Example	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Example STTR: Example	SBIR/ STTR: Utilization	SBIR/ STTR: Outline	SBIR/ STTR: Outline
1999	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Example STTR: Example	SBIR: Example STTR: Example	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Example STTR: Example	SBIR /STTR: Outline	SBIR/ STTR: Outline
1998	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Example STTR: Example	SBIR: Example STTR: Example	SBIR: Utilization STTR: Utilization	SBIR: Utilization STTR: Utilization	SBIR: Example STTR: Example	SBIR/ STTR: Outline	SBIR/ STTR: Outline

Figure 4. NASA SBIR Development Matrix of RCTs.



HRSA EHBs - Microsoft Internet Explorer

http://ehbs.org/hrsa/

HHS's Health Resources and Services Administration (HRSA) - Grants
Electronic Handbooks

1. What Are EHBs?
2. Other Applications
3. An Example EHB
4. Objectives
5. Requirements Capture Tools (RCTs)
6. Multi-Year Areas RCTs/EHBs
7. Multi-Year Subprocesses RCTs/EHBs
8. RCTs/EHBs Development Process
9. RCTs/EHBs Development Roles
10. Benefits
11. Quiz

Electronic Handbooks- EHBs
Documents

Figure 5. Health Services Research Administration (HRSA) EHBs Demonstration.

4. EHBs facilitate process and system improvement by providing "multiple points of view", e.g.,

   - Multiple User Perspectives. By looking at a subprocess thru different user roles (e.g, different user EHBs), one captures more requirements.
   - Multiple Subprocesses. By comparing similar subprocesses (e.g,. SBIR Phase I and II proposal submissions), one can't help but discover efficiencies.
   - Multiple Subprocess Data. By examining an entire process thru the eyes of a single role or user type (e.g., the SBIR firm through the entire SBIR process), one creates simplification with regard to the user.
   - Multiple Applications. By examining similar applications over the same organization (e.g, grants over different programs in the same agency), one can't help but see commonalities.
   - Multiple Organizations. By examining grants over multiple Federal Agencies, one can't help but see commonalities.

3.2.4 Task by Labor Categories and Schedules

Table 6.provides our projected allocation by labor category by task.

Table 7. provides our projected schedule by task.

TASK	DESCRIPTION	PI	PM	Lead TE	2nd TE	Lead SE	2nd SE
1	Develop EHBs User Interface Tools	460	0	34	420	240	540
2	Develop EHBs Backend Tools	460	0	66	840	660	560
3	Develop EHBs Requirements Capture Tools	840	0	38	340	760	360
4	Develop EHBs Demonstration Tools	380	80	80	620	1000	1000

Where: PI = Principal Investigator PM = Program Manager
TE = Technical Expert SE = Software Engineer

Figure 6. Tasks by labor category.

PHASE I SCHEDULE

	Jan - Apr 02	May - Aug 02	Sep - Dec 02	Jan - Apr 03	May - Aug 03	Sep - Dec 03
Develop EHBs User Interface Tools	*	*	*	*	*	*
Develop EHBs Backend Tools	*	*	*	*	*	*
Develop EHBs Requirements Capture Tools			*	*	*	*
Develop EHBs Demonstration Tools			*	*	*	*

where * = Specification and or design.
* = Documentation
* = Software Development
* = SoftwareTesting

Figure 7. Tasks schedule.

Part 4 Company Information

Coney Island, Inc.was incorporated in the state of New York on 12 January 1993. Coney Island, Inc. ,is a company organized to exploit the computerized documentation market. Coney Island, Inc. ,was founded by Mr. Nathan Frankfurter (the proposed Principal Investigator) and Mr. Pierre Fries (Executive Vice President). Coney Island, Inc. ,is located in West Los Angeles and currently leases an office space in a 4 story (earthquake safe) office building. All Coney Island, Inc. , employees have at least one personal computer (most have IBM PCs, while others have Macintoshes or both in their office).

On these two premises, Mr. Frankfurter and Mr. Fries began designing a paperless complex distributed process management system in the second quarter of 1996. Mr. Frankfurter selected Mr. Fries because his former company, Hot Dog Systems, Inc.(HDS), had successfully employed Mr. Fries numerous time as a Senior Software Designer for a number of software development projects. Of the over 100 different consultants HDS used during the two plus decades Mr. Frankfurter was President, Mr. Fries was by far the most productive/creative designer and programmer his former company employed. Since Coney Island, Inc. , is a relatively new company, the past performance listed below are for a few of the projects Mr. Frankfurter (while President of PSS) and Mr. Fries (while Senior Scientist at Grill Corporation and an independent consultant) were instrumental members of during the last few years:

ORGANIZATION: U.S. Navy
PROGRAM: Systems Software Development/Maintenance
CONTRACT NUMBER: FAKH60-86-C-0222
CONTRACT VALUE: $800,000
DESCRIPTION: Designed and developed the Books Language, including the translators and compilers.

COMPANY: General Motors Corporation
PROGRAM: Systems Software Development/Maintenance
CONTRACT NUMBER: J3736485-8474YM
CONTRACT VALUE: $1,200,000
DESCRIPTION: Worked closely with General Motors Corporationto define the contents of process management tools. Maintained a process database for this project which was the driving force for all tasks.

Part 5 Facilities and Equipment

Coney Island, Inc.is located in Southern Brooklyn and currently leases an office space in a 4 story (earthquake safe) office building. All Coney Island, Inc. ,employees have at least one personal computer (most have IBM PCs, 1800mhz, while others have Macintoshes or both in their office)

Part 6 Key Personnel and Bibliography of Directly Related Work

The following brief resumes are the proposed management/technical staff members which form the Coney Island, Inc.SBIR team for Phase II. The fourth portion of Part 4 of this proposal specifies the hours allotted for each task by our proposed staff members.

Name:	Mr. Nathan Frankfurter
Years of Experience:	32
Position:	President, Coney Island, Inc.
Education:	Bachelor of Arts in Mathematics NYU (1961); Graduate studies in Computer Science & Economics
SBIR Assignment:	Principal Investigator and Program Manager. Mr. Frankfurter will be the Principal Investigator and also manage the NASA SBIR Phase I Electronic Handbooks system effort. He will coordinate all interaction between NYU and Coney Island, Inc. , be responsible for all staffing, technical design, reporting and documentation. Mr. Frankfurter will devote a minimum of 100 hours per month of his time to the NASA SBIR project.
Experience:	Prior to founding Coney Island, Inc. , Mr. Frankfurter founded and was President of a highly successful software product development company (Process Software Systems, Inc.) from 1969-1992 (when he formed Coney Island, Inc. ,with Mr. Fries). Mr. Frankfurter was the principal designer of all Coney Island Inc's. products. Coney Island Inc.provided software products to commercial and defense related industries for over two decades. He was responsible for numerous process support tool contracts involving major domestic and foreign defense organizations. He is one of the two principal designers of Coney Island, Inc. 's process management system.

Name:	Mr. Pierre Fries
Years of Experience:	38
Position:	Executive Vice President, Coney Island, Inc.

Education:	Bachelor in Applied Mathematics at Brooklyn College of the City University of New York (1955); Graduate courses in computer science, process managment, abstract logic theory, system organization and analysis.
SBIR Assignment:	Technical Expert. Mr. Fries will participate in the design of the Electronic Handbook system and review all technical efforts related to its development. Mr. Fries will devote a minimum of 40 hours per month of his time to the NASA SBIR project.
Experience:	Mr. Fries is a recognized expert in the development of software. His two decades of successful experience as a lead software engineer includes the design, implementation and verification of numerous successful projects both in embedded and commercial computer marketplace. He is one of the two principal designers of Coney Island, Inc. 's process management system.

Name:	Dr. Potato Kanish
Years of Experience:	30
Position:	Technical Expert, Coney Island, Inc.
Education:	Bachelor of Science in Engineering, NYU (1960); Master of Science in Electrical Engineering, University Maryland (1961); Ph.d. in Computer Science, NYU (1964)
SBIR Assignment:	Technical Expert. Dr. Kanish will participate in design reviews and will also review all technical documentation, including the final report. Dr. Kanish will devote a minimum of 10 hours per month to the NASA SBIR project.
Experience:	Dr. Kanish is a noted expert and author recognized in the United States and Europe. Her process textbooks have been used in numerous colleges. She was the principal designer of numerous operating systems and software support tools.

Name:	Ms. Cornontha Cobb
Years of Experience:	2
Position:	Software Engineer, Coney Island Inc.
Education:	Bachelor of Science in Computer Science City College of the City University of New York (1992)
BIR Assignment:	Software Engineer. Ms. Cobb will be responsible for implementing the front-end to backend translators. Ms. Cobb will devote a minimum of 100 hours per month of her time to the NASA SBIR project.
Experience:	Ms. Cobb was a principal developer of a platform independent, database product using a GUI interface for personal computers and workstations. She was the designer and implementer of Coney Island Inc.'s process and management routines.

Name:	Ms. Softshell (Shelly) Krabbs
Years of Experience:	5
Position:	Software Engineer, Coney Island Inc.
Education:	Bachelor of Science in Math/Computer Science, University of Colorado.
SBIR Assignment:	Software Engineer. Ms. Krabbs will be the Lead Software Engineer for the design and implementation of the backend system. Ms. Krabbs will devote a minimum of 100 hours per month of her time to the NASA SBIR project.
Experience:	Designed and implemented a Motif Graphical User Interface for a Unix environment layer using C and C++. Designed and implemented a software system for laser printers and micro-fiche..

Name:	Dr. Sidney Hamburger
Years of Experience:	18

Position: Professor, NYU
Education: PhD in Computer Science, University of Texas at Austin (1976)
SBIR Assignment: Technical Expert. Professor Hamburger will participate in product design reviews and also review technical documentation (Reference Manual and final report). Dr. Hamburger will devote a minimum of 75 hours to the NASA SBIR project.
Experience: Prior to becoming a professor at NYU, Dr. Hamburger was a key designer and developer of numerous process management systems. He has served as chairman for several major international conferences on processes.

Name: Mr. Van Ella Custard
Years of Experience: 1
Position: Research Assistantship, NYU
Education: M.S. in Computer Science at NYU, June 1992. Currently a Phd student with the NYU Computer Science Department.
SBIR Assignment: Software Test Engineer. Mr. Custard will be responsible for the independent testing of the front-end and backend systems. He will develop a set of test plans/procedures along with associated test data using the Coney Island Inc.process management system's language to thoroughly test the process system. Mr. Custard will devote a minimum of 75 hours per month of his time to the NASA SBIR project.
Experience: Mr. Custard educational background includes extensive management and development of large management applications.

Part 7 Subcontracts and Consultants

Subcontracts:
ORGANIZATION: U.S. Navy
PROGRAM: Systems Software Development/Maintenance
CONTRACT NUMBER: FAKH60-86-C-0222
CONTRACT VALUE: $800,000
DESCRIPTION: Designed and developed the Books Language, including the translators and compilers.

COMPANY: General Motors Corporation
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CONTRACT VALUE: $1,200,000
DESCRIPTION: Worked closely with General Motors Corporationto define the contents of process management tools. Maintained a process database for this project which was the driving force for all tasks.

Consultants:
Coney Island, Inc., had successfully employed Mr. Fries numerous time as a Senior Software Designer for a number of software development projects. Of the over 100 different consultants Coney Island Inc used during the two plus decades Mr. Frankfurter was President, Mr. Fries was by far the most productive/creative designer and programmer his former company employed.

Part 8 Potential Applications

8.1 Potential NASA Applications

There are a number of potential NASA applications for EHBs-based management:

Contracts. Here we manage NASA contracts from beginning to end. The basic subprocesses are 1) Solicitation Development and Outreach, 2) Proposal Submission, 3) Review and Selection, 4) Contract Negotiations and Issuance, 5) Contract Administration, 6) Contract Closeout, and 7) Post-Closeout Processes.

Grants. Here we manage NASA grants from beginning to end. The basic subprocesses are 1) Solicitation Development and Outreach, 2) Application/Proposal Submission, 3) Review and Selection, 4) Grant Negotiations and Issuance, 5) Grant Administration, 6) Grant Closeout, and 7) Post-Closeout Processes.

Education Programs. Here we manage NASA education programs from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Education Program Proposal Submission, 3) Review and Selection, 4) Education Program Negotiations and Issuance, 5) Education Program Administration, 6) Education Program Closeout, and 7) Post-Closeout Processes.

Technologies. Here we manage NASA technology programs from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Proposal Submission, 3) Review and Selection, 4) Technology Negotiations and Issuance, 5) Technology Administration, 6) Technology Closeout, and 7) Post-Closeout Processes.

Datasets. Here we manage NASA data programs from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Proposal Submission, 3) Review and Selection, 4) Dataset Negotiations and Issuance, 5) Dataset Administration, 6) Dataset Closeout, and 7) Post-Closeout Processes.

Software. Here we manage NASA software programs from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Proposal Submission, 3) Review and Selection, 4) Software Negotiations and Issuance, 5) Software Administration, 6) Software Closeout, and 7) Post-Closeout Processes.

Documents. Here we manage NASA document programs from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Proposal Submission, 3) Review and Selection, 4) Document Negotiations and Issuance, 5) Document Administration, 6) Document Closeout, and 7) Post-Closeout Processes.

Missions. Here we manage NASA missions from beginning to end. The basic subprocesses are 1) Program Management Process and Functional (Program Formulation, Program Approval, Program Implementation, Program Evaluation) , 2) Project Management Process and Functional (Project Formulation, Project Approval, Project Implementation, Project Evaluation), and 3) Program/Project Management Systems Requirements (Resources Management, Risk Management, Performance Management, Acquisition Management, Safety and Mission Success, and Environmental Management, Program/Project Management Development)

8.2 Potential Non-NASA Commercial Applications

There are a number of potential non-NASA commercial applications for EHBs-based management:

Contracts. Here we manage contracts from beginning to end. The basic subprocesses are 1) Solicitation Development and Outreach, 2) Proposal Submission, 3) Review and Selection, 4) Contract Negotiations and Issuance, 5) Contract Administration, 6) Contract Closeout, and 7) Post-Closeout Processes.

Grants. Here we manage grants from beginning to end. The basic subprocesses are 1) Solicitation Development and Outreach, 2) Application Submission, 3) Review and Selection, 4) Grant Negotiations and Issuance, 5) Grant Administration, 6) Grant Closeout, and 7) Post-Closeout Processes.

Property Disposal. Here we manage property from beginning to end. The basic subprocesses are 1) Area Development, 2) Proposal Submission, 3) Review and Selection, 4) Property Negotiations and Issuance, 5) Property Administration, 6) Property Closeout, and 7) Post-Closeout Processes.

Research, Analysis, and Information Projects- Here we manage research projects from beginning to end. The basic subprocesses are 1) Area Development, 2) Proposal Submission, 3) Review and Selection, 4) Project Negotiations, 5) Project Administration, 6) Project Closeout, and 7) Post-Closeout Processes.

Education. Here we manage student enrollments from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Applications, 3) Review and Selection, 4) Counseling, 5) Enrollment, 6) Graduation, and 7) Post- Graduation Processes.

Automobile Sales and Service. Here we manage automobiles from beginning to end. The basic subprocesses are 1) Dealer Development and Marketing, 2) Submission, 3) Review and Demonstration, 4) Sales, 5) Servicing, 6) Closeout, and 7) Post-Closeout Processes.

Health Episodes. Here we manage patient health episodes from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Application Submission, 3) Review and Diagnosis, 4) Treatment Determination, 5) Treatment, 6) Treatment Closeout, and 7) Post- Treatment Processes.

Publishing Projects. Here we manage publishing projects from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Project Proposal Submission, 3) Review and Selection, 4) Project Negotiations, 5) Project Administration, 6) Project Closeout, and 7) Post-Closeout Processes.

Legal Cases. Here we manage grants from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Case Submission, 3) Review and Selection, 4) Case Negotiations and Issuance, 5) Case Administration, 6) Case Closeout, and 7) Post-Closeout Processes.

Insurance Policies. Here we manage legal cases from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Policy Application Submission, 3) Policy Review and Selection, 4) Policy Negotiations, 5) Policy Administration, 6) Policy Closeout, and 7) Post-Closeout Processes.

Credit Cards. Here we manage credit cards from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Card Application Submission, 3) Review and Selection, 4) Card Negotiations, 5) Card Administration, 6) Card Closeout, and 7) Post-Closeout Processes.

Travel. Here we manage travel from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Trip Submission, 3) Trip Review and Selection, 4) Trip Negotiations, 5) Trip Administration, 6) Trip Closeout, and 7) Post-Closeout Processes.

Loans. Here we manage loans from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Loan Application Submission, 3) Review and Selection, 4) Loan Negotiations and Issuance, 5) Loan Administration, 6) Loan Closeout, and 7) Post-Closeout Processes.

Construction Projects. Here we manage construction projects from beginning to end. The basic subprocesses are 1) Area Development and Outreach, 2) Application/Proposal Submission, 3) Review and Selection, 4) Project Negotiations and Issuance, 5) Project Administration, 6) Project Closeout, and 7) Post-Closeout Processes.

EHBs Building. Here we manage EHBs from beginning to end. The basic subprocesses are 1) Area

Development and Outreach, 2) Submission, 3) Review and Demonstration, 4) Contract Negotiations and Issuance, 5) Building and Maintaining EHBs, 6) Contract Closeout, and 7) Post-Closeout Processes.

Part 9 Phase III Efforts, Commercialization and Business Planning

Coney Island Inc. has a long history of commercializing, including our database management systems. We have received a multimillion dollar investment by a major investment bank based upon our developing products from our previous research results. Coney Island Inc. had an award from DOD to supply the database system for a family of DOD grant processes.

9.2 Market Feasibility and Competition

In this section, we describe the target market of the commercial product or service, the potential market size (government and/or non-government), the offeror's estimated market share after first year of sales and after 5 years, and, competition from similar and alternative technologies and/or competing domestic or foreign entities.

Coney Island Inc.'s target markets of the commercial product or service is divided into several areas, namely, NASA (i.e., Contracts, Grants, Contracts, Education Programs, Technologies, Datasets, Software, Documents, and Missions), Federal Government (i.e., Grants, Education Programs, Technologies, Datasets, Software, Documents, and Missions), Education (i.e., Public School and University) and the Private Sector (i.e., Sales and Service, Health Episodes, Grants and Projects, Publishing Projects, Legal Cases, Policies, Credit Cards, Travel, Loans, and Construction Projects)

Coney Island Inc.'s estimates of the potential market sizes (government and/or non-government), are as follows- NASA (over 230 Customers), Federal Government (over 500 Customers), Education (over 500 Customers) and the Private Sector (over 500 Customers).

Coney Island Inc.'s estimates of the market shares after first year of sales and after 5 years are as follows- NASA (first year 3%, after 5 years 12%), Federal Government (first year 8%, after 5 years 22%), Education (first year 23%, after 5 years 32%) and the Private Sector (first year 5%, after 5 years 12%)

Coney Island Inc.'s main competition after the first year with come from several companies-

- Hot Pretzel Software Inc,
- Hot Doggie System
- Cole Slaw & Mustard, Limited

Coney Island Inc.'s main competition after five years with come from several companies-

- Hot Pretzel Software Inc,
- Hot Doggie System
- Orange Drinks Developers
- Cole Slaw & Mustard, Limited
- Tommy Knish Developers
- Cheese Pizza Software

9.2 Strategic Relevance to Offeror

In this section, we describe the role the commercial product or service has in the company's current business plan and in its strategic planning for the next 5 years.

Coney Island Inc.'s role for the commercial product or service has in the company's current business plan business is that EHBs will encompass roughly 45% of the firm's business. Coney Island Inc.'s role in its strategic planning for the next 5 years is that it will encompass roughly 79% of the firm's business.

9.3 Key Management, Technical Personnel and Organizational Structure

In this section, we describe (a) the skills and experiences of key management and technical personnel in bringing innovative technology to the market, (b) current organizational structure, and (c) plans and timelines for obtaining needed business development expertise and other necessary personnel.

Coney Island Inc.'s has the skills and experiences of key management and technical personnel in bringing innovative technology to the market. Mr. Frankfurter and Mr. Fries began designing a paperless complex distributed process management system in the second quarter of 1996. Mr. Frankfurter selected Mr. Fries because his former company, Hot Dog Systems, Inc.(HDS), had successfully employed Mr. Fries numerous time as a Senior Software Designer for a number of software development projects. Of the over 100 different consultants HDS used during the two plus decades Mr. Frankfurter was President, Mr. Fries was by far the most productive/creative designer and programmer his former company employed. Since Coney Island, Inc. , is a relatively new company, the past performance listed below are for a few of the projects Mr. Frankfurter (while President of PSS) and Mr. Fries (while Senior Scientist at Grill Corporation and an independent consultant) were instrumental members of during the last few years:

Coney Island, Inc., had successfully employed Mr. Fries numerous time as a Senior Software Designer for a number of software development projects. Of the over 100 different consultants Coney Island Inc used during the two plus decades Mr. Frankfurter was President, Mr. Fries was by far the most productive/creative designer and programmer his former company employed.

Coney Island Inc.'s current organizational structure is displayed in Figure 7.

Coney Island Inc.'s plans and timelines for obtaining needed business development expertise and other necessary personnel are displayed in Figure 8.

9.4 Production and Operations

In this section, we describe product development to date as well as milestones and plans for reaching production level, including plans for obtaining necessary physical resources.

Coney Island Inc.'s product development to date is described in the process called "EHBs to Build EHBs" which define the entire development and marketing of EHBs customer applications. This RCT of this process can be found at http://ehbs.us/etbes/.

Coney Island Inc.'s milestones and plans for reaching production level are outlined in Figure 9. .

Coney Island Inc.'s plans for obtaining necessary physical resources are outlined in Figure 10.

9.5 Financial Planning

In this section, we delineate private financial resources dedicated to development of product or Service (both business development and technical development) to date. Describe the expected financial

Needs and potential sources to meet those needs that will be necessary to bring product or service to market. Provide evidence of current financial condition, e.g., standard financial statements including a current cash flow statement.

Coney Island Inc.'s private financial resources dedicated to development of product or service (both business development and technical development) to date

Coney Island Inc.'s expected financial needs and potential sources to meet those needs that will be necessary to bring product or service to market

Coney Island Inc.'s evidence of current financial condition, e.g., standard financial statements including a current cash flow statement is seen in Figure 11.

9.6 Intellectual Property

In this section, we describe patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient IP protection to realize the commercialization stage and attain at least a temporal competitive advantage.

Coney Island Inc.'s patent status, technology lead, trade secrets or other demonstration to realize the commercialization stage and attain at least a temporal competitive advantage.

Coney Island Inc. has 3 patents and an additional 7 applied for or in process.

Part 10 Capital Commitments Supporting Phase II and Phase III

In this section, we describe and document capital commitments from non-SBIR/STTR sources or from internal SBC funds for pursuit of Phase II and Phase III. Offerors for Phase II contracts are strongly urged to obtain non-SBIR/STTR funding support commitments for follow-on Phase III activities and additional support of Phase II from parties other than the proposing firm.

Funding support commitments must provide that a specific, substantial amount will be made available to the firm to pursue the stated Phase II and/or Phase III objectives. They must indicate the source, date, and conditions or contingencies under which the funds will be made available. Alternatively, self-commitments of the same type and magnitude that are required from outside sources can be considered. If Phase III will be funded internally, offerors should describe their financial position. Evidence of funding support commitments from outside parties must be provided in writing and should accompany the Phase II proposal. Letters of commitment should specify available funding commitments, other resources to be provided, and any contingent conditions. Expressions of technical interest by such parties in the Phase II research or of potential future financial support are insufficient and will not be accepted as support commitments by NASA.

Coney Island Inc. has spent over $200,000 in 1998 of its own money on the LoFLYTE® program and this SBIR. The testing of this vehicle with the neural networks is a very important part of our business. Coney Island Inc. has made a commitment to spend a similar amount next year in support of the Phase II if it is awarded.

Part 11 Related Research/ Research and Development

The Coney Island, Inc. team members consist of the Principle Investigator, Mr. Nathan Frankfurter, who is also the Program Manager; Dr. Sidney Hamburger Mr. Pierre Fries and Dr. Potato Kanish who are the Senior Technical Experts; and our Software Engineers, Mr. Softshell Clams, Ms. Cornonthe Cob and Mr. Van Ella Custard (NYU). This team has already completed the following research:

• Reviewed the language in several formal approaches to process management, in particular, the ISO 9000 standards.

• Researched, discussed, designed and documented the general characteristics required for an distributed complex paperless process management system.

• Reviewed literature for numerous products which provide subsets for distributed complex paperless process management.

• Reviewed literature from numerous products providing document management systems or features which could be included in a process management system, including:

Adobe Systems (Acrobat)	Advanced Software (DocuComp)
Advanced Tech (DocuExpress)	Alared (Alared)
Apple (AppleSearch)	askSam (askSam)
Boss Logic (Boss Logic)	BRS Software (BRS/Search)
Caere (PageKeeper)	CMP Publications (CMP)
ConQuest Software (Conquest)	Cuadra Assoc (Star)
DEC (Teamlinks)	Delrina (PerForm Pro))
Verity (Topic)	Viewstar (Viewstar)
Westbrook Tech (File Magic)	West Publishing (Westlaw)
Westinghouse (Pathways)	WordPerfect (WordPerfect)
Xerox (Docuplex)	Zylab (ZyIndex)