BAY1 INFORMATION SYSTEM

for

H.I.S.

Texas A&M University - Corpus Christi
BAY1

Growth and Expansion Project

Software and Computer Systems

for

Corpus Christi Bay Area
Human Investment System*

by

Team 7

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*A coalition of non-profit and governmental agencies working together to provide more effective services through cooperation and information.

December 1994
ABSTRACT

On October 12, 1994 Human Investment Services asked TAMU-CC to join the HIS software team project. In researching the advancements of the HIS project, we have developed a modularized blueprint for the implementation of a One Stop Shopping Client Service Center (BAY1 Information System). In addition, the TAMU-CC software team has made a detailed evaluation on Galacticomm bulletin board and E-Mail systems.

The BAY1 Service Center plan includes a modularized (block diagram) of each step needed for HIS to facilitate the growth and expansion of this system. Furthermore detailed investigation of each module can be given to successive software teams.

Our detail investigation plan included an evaluation of the Galacticomm Bulletin board, Microsoft E-Mail, and network topologies. In conclusion, the Galacticomm bulletin board is capable of handling the HIS current and future needs as a bulletin board and E-Mail Server. The network topology needed for this system to work effectively is a bus network topology.
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INTRODUCTION

Background

With the advent of House Bill 7, service providers are required to cooperate and share information. In addition, the Corpus Christi Bay Area Council is actively pursuing an integrated approach to assisting clients. Currently, forty-three agencies are cooperatively sharing their resources and ideas. Their common goal is to provide high quality service to the public.

The advent of the information power worker and the greatly increased capabilities of modern computer systems have enormously augmented information handling and retrieval. It is technically feasible to design and implement a one-stop client center approach with modern computer systems. Modern networking technology enables multiple users to locate and share information as needs arise. One of the major goals of the Bay Area Council is to expedite the provision of services for individuals. Modern computer technology can make a large contribution to the achievement of this goal.

Management and Current Contract Funding

The Workforce Development Corporation is the fiscal contract manager for the HIS system. As can be seen in Figure 1, all agencies have equal authority and representation. There are six interdisciplinary teams, consisting of case management, protocol, software, multi-media, funding resources, and evaluation. They are a blend of seasoned veterans and enthusiastic newcomers. The only position which is currently funded directly is the coordinator’s position.

Project Scope

Because of the size of the overall system project and the time constraints, this project was purposely limited in scope. The project has two major goals:

* Creation of the initial overview of Bay 1, which is to specify areas for further development in order to achieve the best match of hardware and software to the one stop client service center requirements.

* Detailed evaluation of electronic bulletin board, E-mail systems, and network topology.
Recommendations

Bulletin Board / E-Mail

Based upon a detailed investigation of Microsoft Mail and Galaticomm BBS, we recommend that Galaticomm be installed. This system will work with leased lines or with modem racks.

Network Communication

Also, we recommend that the server be based at HIS, rather than at United Way. In the short term, we recommend a local bus network architecture running Novell Netware 3.0 or higher. In the long term, we recommend implementing a hybrid network topology running on the Unix operating system.

Software Requirements

We recommend that all software packages be very user friendly, which means using graphics interfaces rather than command language interfaces as much as possible. Also, system security and maintenance of confidentiality are of the utmost importance in this application. All possible measures should be taken to protect them.

Bayl Information System Growth and Expansion

As the one stop client services system is constantly evolving and expanding, it is our recommendation that future study or analysis for the thirteen areas identified, be performed. The knowledge derived from a Preliminary Investigation Study for each of these areas will be beneficial in responding to the questions that will arise in the development of the Bayl Information System. These studies can be performed by HIS in-house staff, or by outside personnel. An option that HIS might wish to explore is the use of TAMU-CC students for these future studies and projects.
Subject and Purpose

At current HIS has purchased laptops and can communicate with infoline. This is the first step in their long term objective, to share client information through all agencies. The next step is to implement a bulletin board system. This will enhance collaboration between agencies, which is critical for future system success.

TAMU-CC software team is making a detailed recommendations for a bulletin board system, E-mail system and network topology. We are proposing preliminary investigations be performed on the modules listed below.

1. Common Intake and Eligibility Form
2. Fax Implementation
3. Scanner Implementation
4. Customized Brochures and Service Plans
5. Automated Client Scheduling
6. CD ROM Implementation
7. Automation of Photographic Data
8. Shared Client Database Implementation
9. Optical Disk
10. Video
11. Internet
12. Network Management
13. Customer Support Standards

In the detailed investigation for the bulletin board and the e-mail we have examined two alternatives.

1. Galaticomm
2. Microsoft mail

For the network communication there are four network alternatives.

1. HIS as the Independent Communications Host
2. United Way as the Independent Communications Host
3. Each agency to communicate with the basic modem
4. Communication carrier as microwave or satellite.

We have examined four types of network topologies which could be used to implement the communication option.

1. Bus Network topology
2. Star Network topology
3. Ring Network topology
4. Hybrid Network topology
**GALACTICOMM BBS - CASE 1**  
(Regular PC Motherboard)

![Diagram of CPU slots and 8 port Serial Card](image)

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GALACTICOMM BBS - CASE 2
(GalactiBox with CPU)

Modems

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<td>GalactiBox 16 slots</td>
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**TOTAL:** 2,775
Galacticom
BBS

Features:

[] Easy to install
[] Multi-user database
[] C source code available
[] Electronic Post Office
[] Maximum Security and Menu Control
[] Teleconferencing and Surveys
[] Accounting, Statistics, and Reports
[] Expansion is simple and easy

Minimum Requirements:

[] An IBM-compatible personal computer(286,386,486,586)
[] 2MB of extended memory
[] MS-DOS 3.3 or later
[] Hard disk

Price:

[] Base 2 User $ 259.00
[] Every additional 6 users $ 249.00
[] 8 port serial board $ 495.00
[] Galactibox 16 slots $ 1,695.00
Features:

- 40 personal Client distribution list
- 8,000,000 User accounts
- Dos environment
- Message forwarding, return receipts, file attachments
- Quickscan feature
- Teleconference
- Upload And download file capabilities

Minimum requirement:

- IBM compatible personal computer (286, 386, 486, 586)
- 2 MB of extended memory
- MS-DOS 3.3 or later
- Hard Drive

Price:

- Included with the purchase of Gallacticom BBS.
MICROSOFT
E-MAIL v3.2

FEATURES:

[] Easy setup & administration
[] Windowing environment
[] Network/Gateway compatible
[] Powerful communication
[] Complete address / List management
[] Scheduler

Minimum requirement:

[] Microsoft Mail for pc Network Server
[] 2MB of memory
[] MS-DOS or pc-DOS 3.01 or later
[] 2400 bps modem or higher
[] Hard Disk

Price:

Server    $ 350.00
Client    $ 350.00
Upgrade   $ 195.00
EVALUATION OF
GALLACTICOMM BBS

Presented with the task of evaluating the Galacticomm Bullliten board five questions had to be asked. Listed below are the questions.

1. Is the BBS User friendly?
2. Does the BBS offer security?
3. What type of communication is supported?
4. What protocols are supported for upload and download?
5. What are the hardware requirements?

In answering these questions we have also included the advantages and disadvantages Galacticomm offers.

COMMUNICATIONS

Galacticom offers five communication options, LAN, MODEM, LOCAL, X.25, and serial.

**Advantage**

This means HIS can start with regular dialup lines and switch to X.25 in the future without changing the BBS software. For instance, a beta site with two dial up telephone lines can be implemented with very minimal cost. When system usage is dense and callers begin to receive busy signals, HIS can upgrade to an X.25 circuit or add more modems.

**Disadvantage:**

When using a Novell network the advanced LAN option must be purchased at a cost of $645.00.
USER FRIENDLINESS

Gallacticom comes with a built in Menu builder.

Advantages

HIS can custom design menus to obtain user friendly screens.

Disadvantage:

A script language is used this means the system operator must learn to use the script language.

SECURITY

Capability to assign access levels to all users.

Advantage:

HIS can assign access privileges to authorized users. For example a case worker can be blocked for accessing certain data.

Disadvantage:

None
UPLOAD AND DOWNLOAD PROTOCOLS

Gallacticom supports:

- ZMODEM
- YMODEM
- XMODEM-1K
- KERMIT
- SUPER KERMIT
- ASCII

Advantage:

The wide variety of protocols enables users to use any terminal emulator to log on to the BBS.

disadvantage:

None

HARDWARE REQUIREMENTS

386SX, 16MHz or greater

4MB of memory

2 com ports for two users

1 Galactiboard or Galactibox for more than 2 users.

Advantage:

Gallacticom provides all communication hardware needed.

Disadvantage:

When using x.25 packet-switching network, the x.25 software option must be purchased for $935.00 and the PC Xnet card for $1395.00.
Galacticomm, Inc. • 4101 SW 47th Avenue • Suite 101 • Fort Lauderdale, FL • 33314
BBS: (305) 583-7808 • Fax: (305) 583-7846 • Voice: (305) 583-5990

Galacticomm
Pricing and Order Information
November 1993

✓ The Major BBS® Version 6.1, 2-user $259
A complete Bulletin Board System software package for two simultaneous users on a single PC. Includes multi-lingual/multi-protocol architecture for language add-ons and graphical interfaces, electronic mail, forums, file library areas, teleconferencing, "doors" to a second computer, full screen editor, fully configurable menuing, security and accounting features, and much more. Two-user system can be run under Windows and OS/2. Supports Hayes®-compatible modems, serial connections, and Novell NetWare® IPX Direct connections. Requires a 286 or better, 2MB of RAM, and DOS 3.3 or higher.

Connectivity Options

User Six-Pack™, each $249
Provides support for six additional simultaneous users. Installs effortlessly and leaves all existing configuration and data files intact. Up to 42 User Six-Packs can be added for a total of 256 simultaneous users (we throw in the last two users for free).

Advanced LAN Option™ $645
Allows IBM-PC users on your Novell LAN to log into your BBS (up to the total number of simultaneous users you have on your network license support) without dedicating a channel to each individual workstation.

X.25 Software Option™ $935
Connects your BBS to a X.25 packet-switching network without the need for a PAD. Requires the PC XNet card – see Hardware.

Fax/Online™ Add-on Option $249
Provides an outgoing online fax service for your system. Users can fax pre-scanned images and ASCII text files from your document database. Inquire about fax rate charges, and send copies to others. Requires EIA Class 2/CCITT Group 3 fax modems.

Shopping Mall™ Add-on Option $249
Extends your system into an online order-entry, catalog sales, or credit card-based purchasing facility. Supports multiple stores, each with its own merchant and department areas. Users may browse product lines at no obligation and can place or cancel orders at will.

Search and Retrieve™ Add-on Option $199
An online text file manager that allows users to search through large collections of text files for specific keywords. You can have multiple subsets available for searching. Access to individual categories can be restricted on a user-by-user basis.

Dial-Out™ Add-on Option $249
Allows users on your system to transparently connect to other computers via modems, local serial links, or X.25 virtual circuits (X.25 requires the X.25 Software Option). You can offer up to 65,355 "gateways" to other systems, and you can add, edit, or delete them online. A powerful script language is included.

Major QWK-mail™ Add-on Option $199
Users can download a packet of all their Forum and EMail messages. They can then use an offline reader to view the messages and upload their replies, saving long distance time.

Major Gateway/Internet™ Add-on Option $249
Gives users access to Internet E-mail and newsgroups. Supports file attachments and up to 3,500 newsgroups. Includes UUPLUS, the communications software needed to connect to a UUCP host provider.

Entertainment Collection™ Add-on Option $249
Includes Fazulu, a multi-player text adventure game; Android/s, a multi-player ANSI-graphics game; Flash Attack and Flash Chat, as well as support for other Flash™ games; Hangman’s Secret Cove; Super Lotto; Super Nova; the Action Teleconference, a chat extravaganza with action verbs for users; the Teleconference Link-Up; and Teleconference Poker, Bingo, and Blackjack.

Kyrandia™ Add-on Option $199
Our premier multi-player text adventure, Kyrandia is a world of magic, wonder, and romance. Dvorak’s Guide to PC Telecommunications writes that Kyrandia is “the most advanced multi-user text-adventure game created to date.”

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Φ Supports Borland® Tools
Ψ Yes It runs with NetWare®

NetWare makes no warranties with respect to this product.
Flash Games

Syop Flash Pack ............................................. $199
A trio of Galacticom’s most popular Flash games: Flash Maze, Flash Tanks, and Flash Space Wars. Requires the Entertainment Collection Add-on Option.

C Source Code

Developer’s C Source Kit ........................................... $385
Use this kit to modify the BBS and its existing add-ons or write your own add-on options. Includes files necessary to re-compile the run-time executable, two of the utilities, and certain standard DLLs. The Developer’s Guide to The Major BBS is included. Requires a registered copy of The Major BBS, the Phar Lap 286 | DOS-Extender SDK, and Borland C++ 3.1.

(All C source code listed below requires the Developer’s C Source Kit and registered copies of any add-on options for which you want to purchase C source code.)

Extended C Source Suite ................................. $560
Contains the C sources to many of the offline programs such as the configuration editor, the Menu Tree management utility, the screen drawing tools, and more. Also contains the C source to GCOMM.LIB, a collection of low level routines used by the BBS and its offline utilities for DOS functions, operator I/O, text message management, string manipulation, etc.

The Major Database C Source Code ......................... $735
Shopping Mall C Source Code ............................... $370
Search and Retrieve C Source Code ....................... $295
Dial-Out C Source Code ....................................... $395
Major QWK-mail C Source Code ............................. $295
Entertainment Collection C Source Code ................... $370
Kyrandia C Source Code ...................................... $295
Fax/Online Developer’s Kit ................................. $99

Development Tools

286 | DOS-Extender SDK by Phar Lap ..................... $414
Break the 640K DOS memory barrier and access up to 16MB of extended memory in protected mode.

Borland C++ 3.1 ................................................ $395
Galacticom’s protected mode compiler and environment of choice. Includes Turbo Debugger and Profiler; Object-oriented Turbo Assembler; Resource Workshop; and much more.

DOORWAY by TriMark Engineering .......................... $499
Provides access to DOS applications on a separate computer.

Multi-User Hardware

GalactiBoard™ ..................................................... $575
An 8-port RS-232 serial interface for connecting The Major BBS to external modems, terminals, or other computers running communications software. Uses 16550-type UARTs for efficient high-speed file transfers. Cable assembly included which provides 8 male DB-25 connectors with DTE pinouts.

GalactiBox™ (unpopulated) ................................ $1695
An AT-size expansion chassis with slots for up to 16 internal modems or serial cards. Specially designed to prevent addressing or interrupt conflicts and includes an interface card for the AT/EISA bus on your microcomputer motherboard. Switchable 110/220V power supply.

X.25 Network Hardware

PC XNet Card from OST ........................................ $1295
A dual-port X.25 interface that connects directly to equipment from SprintNet, CompuServe, Datapac, Autonet, and other packet-switching networks.

Internal Modems

2400 bps modems ................................................. $79 each
2400 bps, V.42bis, MNP-5 modems ......................... $159 each
14400 bps, V.32bis, data/fax modems ....................... $385 each

External Modems

2400 bps modems ................................................. $105 each
2400 bps, V.42bis, MNP-5 modems ......................... $209 each
14400 bps, V.32bis, data/fax modems ....................... $399 each

Update Program

Automatic Software Update Program ....................... $199
Per year, per registration number. Receive all significant new software updates to products you have purchased as soon as we’ve fully tested them. (International ASUPs are $299/year.)

For “one-shot” updates, give us a call for pricing.

Shipping Options

2nd day air, anywhere in U.S. .............................. $12
Next day air, anywhere in U.S. .............................. $24
Canadian and Mexican software ......................... $45
International software ............................... Call for quote

Hardware orders ............................... Call for quote

The prices above include shipping and handling charges for software shipments via the courier of our choice. We can also ship via the courier of your choice; call for details and pricing.

Payment Options

• Credit cards: VISA, MasterCard, or American Express
• C.O.D. orders: U.S. orders only; cashier’s check or money order only, please
• Prepayment: Cashier’s check or money order (U.S. funds drawn on a U.S. bank); company or personal check (U.S. orders only, shipped within 48 hours after approval)
• Purchase orders: Subject to credit approval, we accept Net 30 orders from U.S. government agencies and U.S. corporations with favorable Dun & Bradstreet ratings. We’ll need a hard copy of your P.O. either by fax or by mail. Please omit state sales tax unless you’re in Florida.
• Bank transfers: Send wire transfer in U.S. dollars to: Capital Bank, 1221 Brickell Avenue, Miami, Florida, 33131. Attention: Wire Transfer Dept. ABA No. 067008414, Account No. 3300005264. We will ship after correct funds are received. Please include $20 to cover bank charges.

All Galacticom products include a 30-day money-back guarantee!

All prices and specifications are subject to change without notice. All hardware, unless otherwise specified, conforms to N. American standards.
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