



Research Project 2 System Requirements Document

Business Systems Solutions and Development
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Introduction

Problem

The contractual payment system currently used by Bank of Xanadu requires labor intensive data cross-referencing and management to maintain the system.

Analysis Approach

- DFD (Data Flow Diagram)
- FDD (Functional Decomposition Diagram)
- Interview Users and management
- Document Analysis
- Observation of current routines and processes

Scope

The scope of the proposed information system will include:

- Design and implementation of an automatic payment system using a database to store and access information
- Automation of processes such as:
 - Cross-referencing invoice entry data with contractual terms
 - Performing calculations to monitor fee maximums, accruals, and totals
 - Generating monthly reports and memos
- Providing employee training to use the system

Objectives

To build a system that meets these functional requirements:

- Automate management of contractual payments based on negotiated terms, rates, and limitations
- Store and access data for vendors, contracts, and invoices
- Ensure accuracy and consistency in data entry
- Generate monthly reports and memos
- Reduce the amount of time managing the current system
- Reduce the amount of time cross-referencing invoice data and contractual stipulations

Processes & Information

Process and information requirements of the current system need to be identified for migration into the the proposed system. These will include any procedures and data about:

- Contracts
- Invoices
- Inquiries
- Accruals
- Monthly Reports
- Memos (Exception, misc.)
- Vendors & Contractors
- Personnel (Project manager, programmer, vice president, etc.)

System Comparison Chart

SYSTEM COMPARISON	AS-IS	TO-BE
PROCESSES: Balance Computations Calculations Input Information Cross Referencing Data Generate Reports Accruals	Manual Manual / Excel Manual Manual Manual Manual	Automatic Automatic Manual/Scanned Automatic Automatic Automatic
DATA/ INFORMATION: Enforced data entry standards Accurate Repetitive / redundant Data Integrity	No No Yes No	Yes Yes No Yes
HARDWARE: Computer Printer Fax Invoice Scanner	Yes Yes Yes No	Yes Yes Yes Optional

System Comparison Chart

SYSTEM COMPARISON	AS-IS	TO-BE
GENERATED REPORTS User friendly Easy to navigate Easy to calculate GUI Easy to input information Automatic	Yes No No Yes No No	Yes Yes Yes Yes Yes Yes
INTERFACE User friendly Easy to navigate GUI Easy to input information	Yes No Yes No	Yes Yes Yes Yes
SOFTWARE: Microsoft Office Professional Database	Yes No	Yes Yes

Microsoft Access

Access is an entry-level database management system.

Pros:

- Access uses the familiar Microsoft GUI interface
- Access is capable of integrating with larger-scale enterprise databases such as Microsoft's SQL Server and Oracle
- Access can import Excel spreadsheets from the current system
- No annual licensing fees

Cons:

- Size limitations (1-5 million records per table, depending on size)
- Can not use multiple operating systems

Edition	Price
Access 2010	\$140
Office 2010 Professional	\$500

MySQL

MySQL is an open-source RDBMS often used in conjunction with GUI interface programs such as Toad.

Pros:

- Faster and more stable than alternative packages
- Can run on multiple operating systems
- Supports multiple languages

Cons:

- Has no front end GUI, requires third party software
- Requires knowledge of SQL
- Longer learning curve and training

Edition	CPU'S	License (Annual)
Standard	1-4	\$2,000
Enterprise	1-4	\$5,000

Microsoft SQL Server

Microsoft SQL Server is a powerful RDBMS catering to high-end users with advanced needs.

Pros:

- High level of security
- Integrates with Microsoft Office

Cons:

- More expensive than comparable alternatives
- Can only be used on a Windows platform
- Does not have a front end GUI

Edition	License	Software Assurance
Standard	\$7, 171	\$1,793
Enterprise	\$27,495	\$6,874

Oracle Database

Regarded as one of the two most popular full-featured database systems on the market today

Pros:

- Multi user capable
- Can store unlimited data

Cons:

- Very expensive
- Requires annual updates/support fees
- Standard and Enterprise editions come with basic security only
- Many features that are native to other alternatives require purchasing plug-ins

Edition	User	License	Update/Support
Standard	\$350	\$17,500	\$3,927
Enterprise	\$950	\$47,500	\$10,659

IBM DB2

DB2 is a relational database system originally for use on large mainframe computer systems.

Pros:

- Supports all known OS Platforms
- Easy to administer
- Integrates with the Web

Cons :

- More expensive than better performing alternatives
- More complex implementation

CPU's	Workgroup	Enterprise
1	\$7,500	\$25,000
Up to 32	\$240,000	\$800,000

Custom/Manual Alternatives

Custom software

- Solutions are designed and programmed from scratch
- Designing and programming a new system can be time consuming
- More expensive than most other options presented here

Manual alternatives

- It may possible to extend the current Excel system using advanced functions to automate more of the calculations
- The use of an Excel workbook does not address problems identified with the current system
- It is beyond Excel's ability to generate reports and process accruals

Outsourcing

The contractual payment can be outsourced to a firm that specializes in database entry and management.

Pros:

- Often cheaper than maintaining an in-house staff to manage the system
- Some create and maintain their own databases
- Client databases can be remotely managed and maintained

Cons:

- Has security and privacy risks
- The potential for logistics conflicts such as access to original documents

Sample Outsourcing Prices

AtoZTasks.com (San Bernardino, Ca.) provides three levels of data entry and management service:

40 Hours/Month	80 Hours/Month	160 Hours/Month
\$295	\$595	\$795

Time Estimates

Design: phase will start April 4th, 2011 and is scheduled to end on May 19, 2011.

Implementation: This phase is scheduled to start on May 20, 2011 and will end on June 10, 2011.

Operation: BSSD will support, maintain, and enhance this system until June 6, 2016.

Recommendation

BSSD recommends that Bank of Xanadu implement an automatic payment system using Microsoft Access for the following reasons:

- Access is part of the Microsoft Office Professional Suite already in use at Bank of Xanadu
- No initial costs for purchasing the software
- Access can perform the necessary functions required and can address future growth of the new system
- Training requirements are reduced because the primary user of the current system is familiar with the software
- An Access database can often be implemented in half the time of other alternatives



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