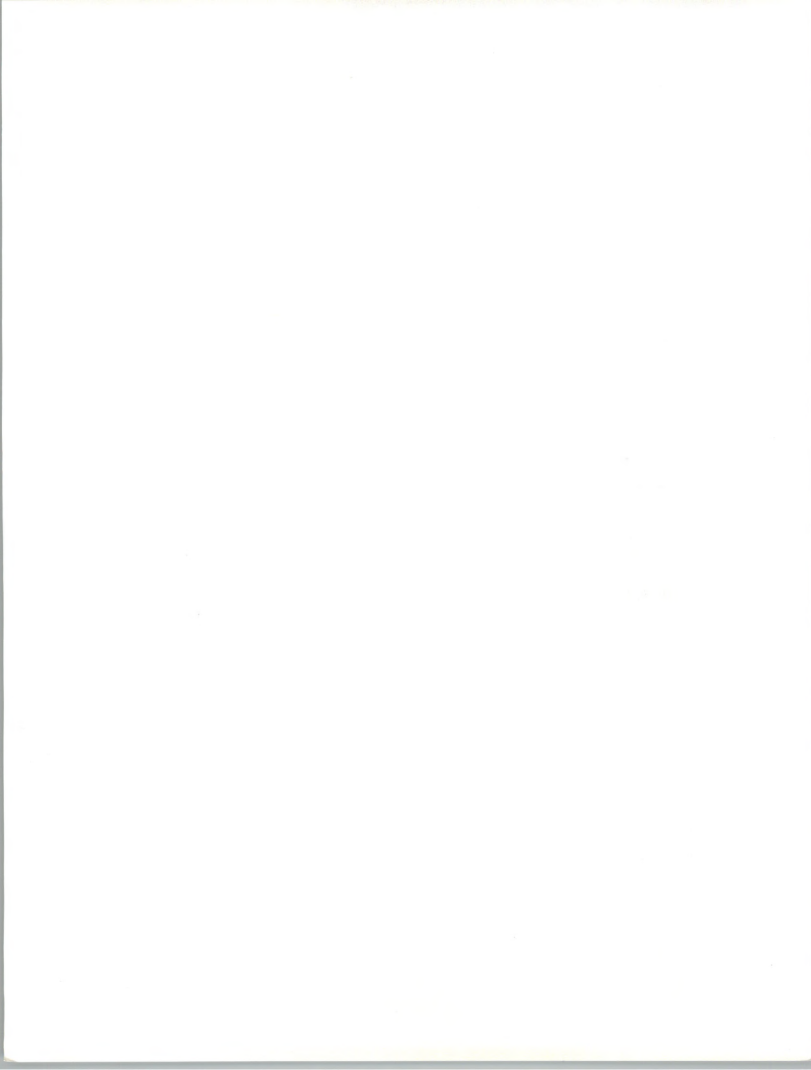


Banking/Finance Vertical Market Case Study:
**Investors Group—Client
Account Servicing System**

Charles N. Gregory
Senior Vice President
Atkinson, Tremblay & Associates Inc.
(An AGS Information Services Canadian affiliate)



INPUT

1992 SYSTEMS INTEGRATION CONFERENCE

BANKING VERTICAL MARKET

FINANCIAL SERVICES SECTOR

*** * ***

CASE STUDY

***DEVELOPMENT OF AN
INTEGRATED CLIENT
ACCOUNT SERVICING SYSTEM***

July 22, 1992

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**THE SOFTWARE FACTORY
AGS INFORMATION SERVICES
A NYNEX COMPANY**

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AGENDA

- 1 CLIENT BACKGROUND
- 2 SYSTEMS ENVIRONMENT TO BE REPLACED
- 3 BUSINESS OBJECTIVES
- 4 APPROACH TO ARCHITECTURE
- 5 PROJECT MANAGEMENT
- 6 DELIVERED SYSTEM

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are supported by appropriate evidence and are clearly documented.

3. The second part of the document outlines the various methods used to collect and analyze data.

4. These methods include both qualitative and quantitative approaches, each with its own strengths and limitations.

5. The third part of the document provides a detailed overview of the results obtained from the study.

6. The findings indicate that there is a significant correlation between the variables being studied.

7. This correlation suggests that the factors being examined are closely related and influence each other.

8. The fourth part of the document discusses the implications of these findings for future research.

9. It is recommended that further studies be conducted to explore the underlying mechanisms of the observed effects.

10. Finally, the document concludes by summarizing the key points and providing a final statement on the overall findings.

CLIENT BACKGROUND

**BUSINESS
OVERVIEW**

- LEADING CANADIAN DISTRIBUTOR OF MUTUAL FUNDS AND INVESTMENT SERVICES
- OFFERS FINANCIAL INVESTMENT AND PLANNING SERVICES TO INDIVIDUALS
- 950,000 ACCOUNTS
- \$14.5 BILLION (CDN) OF ASSETS UNDER ADMINISTRATION
- HEADQUARTERS IN CANADA
- 75 REGION OFFICES ACROSS COUNTRY
- 2000 CUSTOMER REPRESENTATIVES
- PROVIDES SERVICES IN 2 LANGUAGES

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CLIENT BACKGROUND

FINANCIAL
PRODUCTS

- **MUTUAL FUNDS (ASSETS UNDER MANAGEMENT)**

- **NON-FUNDS (LIABILITIES) INCLUDING:**
 - GIC (GUARANTEED INVESTMENT CERTIFICATES)
 - TCA (TERM CERTAIN ANNUITIES)

- **TAX SHELTER REGISTRATIONS:**
 - RETIREMENT
 - EDUCATION
 - INVESTMENT FUNDS

- **AUTOMATED SERVICES:**
 - AUTOMATIC PERIODIC CONTRIBUTIONS
 - PERIODIC SHARE PURCHASE PLANS
 - PERIODIC REDEMPTIONS, DISBURSED OR TRANSFERRED
 - TRANSFER OF INCOME PAYOUTS TO OTHER ACCOUNTS (INSTEAD OF DISBURSED)
 - CLIENT AND GOVERNMENT REPORTING

Page 1 of 1
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Time: _____
Name: _____

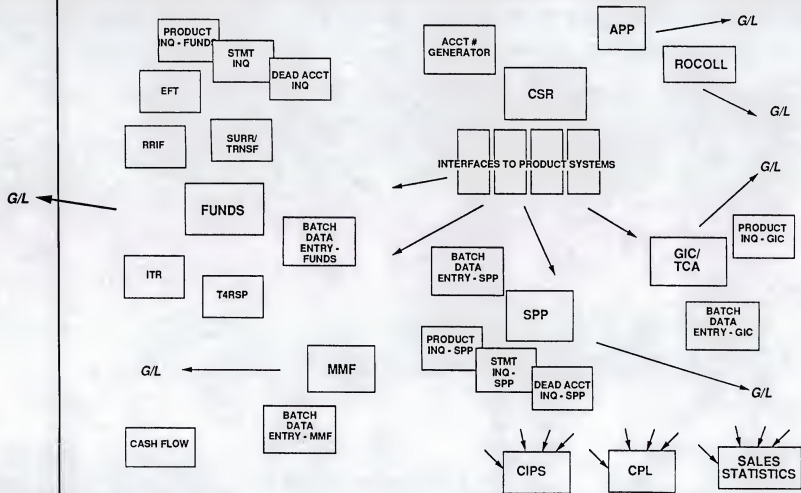
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GENERAL
CHARACTERISTICS

- MULTIPLE PARALLEL SYSTEMS
- FUNCTIONAL REDUNDANCIES AND INCONSISTENCIES
- MULTIPLE BRIDGES AND INTERFACES
- HIGH ERROR RATES
- OUTDATED TECHNOLOGY PLATFORMS
- LARGE QUANTITY OF SOFTWARE WITH A LOT OF
FUNCTIONALITY
- 23 SYSTEMS, 2 MILLION L.O.C.



SYSTEMS ENVIRONMENT
TO BE REPLACED





OBJECTIVES

BUSINESS

- BE ABLE TO INTRODUCE NEW FINANCIAL PRODUCTS AND SERVICES RAPIDLY
- IMPROVE CUSTOMER SERVICE:
 - MORE CONSISTENT SERVICES
 - PORTFOLIO MANAGEMENT
- MANAGEMENT INFORMATION:
 - IMPROVED MARKETING KNOWLEDGE
- DECENTRALIZE WORK TO REGION OFFICES

TECHNICAL

- RENEW TECHNOLOGY PLATFORM

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
5780 SOUTH CAMPUS DRIVE
CHICAGO, ILLINOIS 60637

TO THE PRESIDENT AND FELLOWS OF THE UNIVERSITY OF CHICAGO
FROM THE DEPARTMENT OF CHEMISTRY
SUBJECT: [Illegible]

[The following text is extremely faint and illegible due to the quality of the scan. It appears to be a letter or report, possibly containing a list of names or a detailed account of an event. The text is mostly lost to the noise and low contrast of the image.]

Very truly yours,
[Illegible Signature]

APPROACH TO ARCHITECTURE

OBJECTIVE

*The system had to
be relatively small -
less software would
mean less time*

*In order to impose
low maintenance
costs and low risks,
the system had to
be independent of
organization and
procedures*

*System had to
overcome the
pitfalls of today's
systems*

DEVELOP A SMALLER SYSTEM

FLEXIBLE

CONSISTENT

ACCURATE



ARCHITECTURAL
APPROACH

CONCEPT - ING TM

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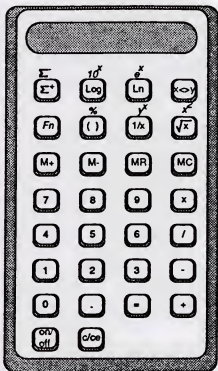
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APPROACH TO ARCHITECTURE

CONCEPT-ING

ANALOGY OF THE SCIENTIFIC CALCULATOR

*The goal of
Concept-ing is to
find the ideal set of
"buttons" such that,
for any business
procedure, some
combination of
"buttons" will
automate the
procedure*



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the specific procedures and protocols that must be followed when recording transactions. This includes details on how to categorize expenses, how to handle receipts, and how to ensure that all entries are properly documented and reviewed.

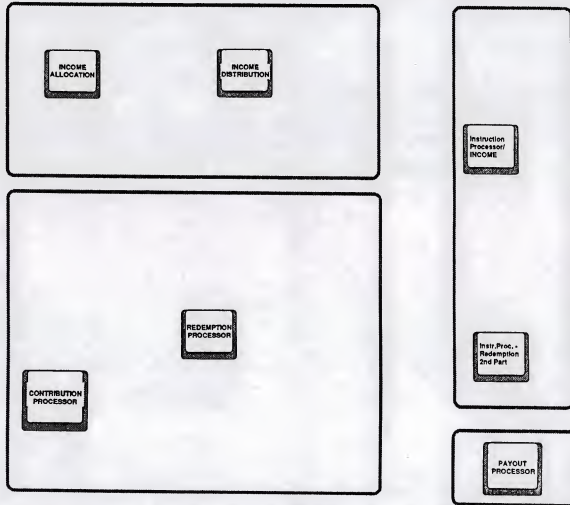
3. The third part of the document provides a detailed overview of the financial reporting process. It explains how the recorded data is used to generate various financial statements, such as the balance sheet, income statement, and cash flow statement, and how these statements are used to assess the organization's financial health.

4. The fourth part of the document discusses the role of internal controls in the financial reporting process. It highlights the importance of having strong internal controls in place to prevent errors and fraud, and to ensure that the financial statements are reliable and accurate.

5. The fifth part of the document provides a summary of the key points discussed in the previous sections. It reiterates the importance of accurate record-keeping, the need to follow established procedures, and the role of internal controls in ensuring the integrity of the financial reporting process.

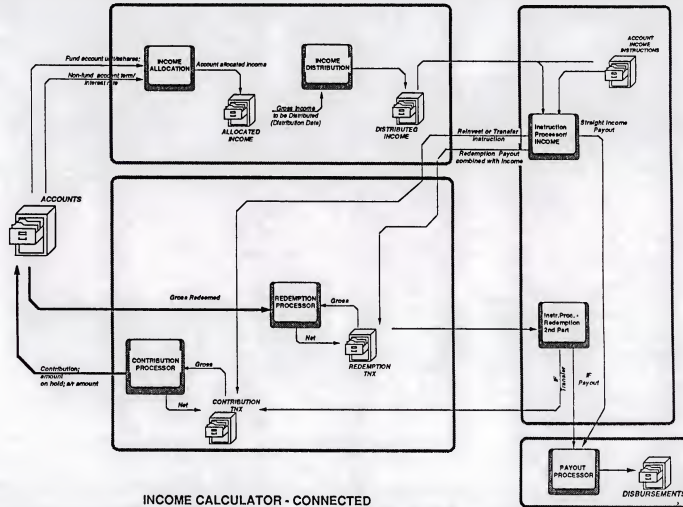


APPROACH TO ARCHITECTURE





APPROACH TO ARCHITECTURE





APPROACH TO ARCHITECTURE

BENEFITS

- **HIGH LEVEL OF REUTILIZATION OF SOFTWARE COMPONENTS (70-80%)**

- **SOFTWARE NOT CIRCUMSTANTIAL IN DESIGN**
 - **STABLE**
 - **ADAPTABLE**

- **SEPARATION OF SYSTEM FUNCTIONS FROM USER INTERFACE**

- **TESTING SIMPLIFIED:**
 - **FOCUSED IN UNIT FUNCTION TESTING**
 - **INTEGRATION ONLY CONSISTS OF TESTING LINKS**

1. The first part of the document is a header section containing the title and the author's name. The title is "The Role of the State in Economic Development" and the author is "John Doe".

2. The second part of the document is an abstract. It provides a brief summary of the main arguments and findings of the paper. The abstract states that the paper examines the role of the state in economic development, focusing on the impact of government intervention on growth and employment.

3. The third part of the document is the introduction. It sets the context for the study and outlines the research objectives. The introduction discusses the importance of understanding the role of the state in economic development, particularly in the context of developing countries.

4. The fourth part of the document is the literature review. It surveys existing research on the role of the state in economic development. The literature review identifies key theories and empirical findings, highlighting the need for further research.

5. The fifth part of the document is the methodology. It describes the research methods used in the study, including data sources and analytical techniques. The methodology section explains how the data was collected and how it was analyzed to test the hypotheses.

6. The sixth part of the document is the conclusion. It summarizes the main findings of the study and discusses their implications. The conclusion states that the study found that government intervention has a significant positive impact on economic growth and employment in developing countries.

STRATEGY



ADMIN
MIS
AGS

USERS

PROCEDURES TESTING
DESIGN TEAM

MIS

ANALYSTS AND PROGRAMMERS

AGS

TECHNOLOGY

GEOGRAPHY



Strategy is the means by which each player is framed in the direction of the target result of the project

If circumstances change or assumptions don't hold true, the strategy must change in order to keep the project on target.

1. Introduction
2. Background
3. Methodology
4. Results
5. Discussion
6. Conclusion
7. References

1. Introduction
The purpose of this study is to investigate the effects of the independent variable on the dependent variable. The study is based on a sample of participants from various backgrounds and ages. The results of the study are presented in the following sections.

2. Background
Previous research has shown that the independent variable has a significant impact on the dependent variable. However, the exact nature of this relationship is still unclear. This study aims to clarify the relationship between the two variables.

3. Methodology
The study used a quantitative research design. Data was collected through a series of experiments and surveys. The sample size was 100 participants. The data was analyzed using statistical software.

4. Results
The results of the study show a positive correlation between the independent variable and the dependent variable. The correlation coefficient was 0.75. This indicates a strong positive relationship between the two variables.

5. Discussion
The findings of this study are consistent with previous research. The independent variable has a significant impact on the dependent variable. The results suggest that the relationship between the two variables is not linear.

6. Conclusion
The study concludes that the independent variable has a significant impact on the dependent variable. The relationship between the two variables is positive and non-linear. Further research is needed to explore the underlying mechanisms of this relationship.

7. References
1. Smith, J. (2018). The effects of the independent variable on the dependent variable. *Journal of Psychology*, 145(2), 123-135.
2. Doe, A. (2017). The relationship between the independent variable and the dependent variable. *Journal of Research in Personality*, 52(1), 45-58.
3. Brown, C. (2016). The impact of the independent variable on the dependent variable. *Journal of Experimental Psychology*, 145(3), 234-248.

PRINCIPLES OF
PROJECT MANAGEMENT
STRATEGY

CHANGE STRATEGY TO *REMAIN ON TARGET*

DEFENSE

NEVER GO BACK AND REDO

CONTINUALLY IMPROVE PRODUCTIVITY

TARGET

INCREASE IN \$ ———> MORE SOFTWARE

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PROJECT MANAGEMENT

BENEFITS

- NEVER HAD TO STOP AND REDO PART OR WHOLE OF SYSTEM
- PRODUCTIVITY HAS INCREASED THROUGHOUT PROJECT
- SIZE OF SYSTEM CONTROLLED
- USABLE PARTS OF SYSTEM DELIVERED EARLY, TESTED AND IMPLEMENTED BY USER

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial statements and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. It includes a detailed description of the sampling techniques employed and the statistical tests used to evaluate the results.

3. The third part of the document presents the findings of the study. It shows that there is a significant correlation between the variables being studied, and that the results are consistent with the theoretical framework.

4. The fourth part of the document discusses the implications of the findings. It suggests that the results have important implications for practice and for further research in the field.

5. The fifth part of the document concludes the study. It summarizes the main points and provides a final statement on the significance of the work.

6. The sixth part of the document provides a list of references. It includes all the sources cited in the text, and is formatted according to the relevant style guide.

7. The seventh part of the document contains the appendices. These include any additional information that is relevant to the study but that does not fit into the main text.

8. The eighth part of the document is the index. It provides a quick reference to the various sections of the document, making it easier for the reader to find the information they need.

9. The ninth part of the document is the glossary. It defines any technical terms or abbreviations used in the text, ensuring that the reader can understand the document fully.

DELIVERED SYSTEM

SIZE

- FIRST VERSION - 3500 FUNCTION POINTS
 - ONE NEW PRODUCT - NON-FUND
- SECOND VERSION - 5500 FUNCTION POINTS
 - NON-FUNDS
- THIRD VERSION - 8000 FUNCTION POINTS
 - FUNDS

QUALITY

- DEFECT REMOVAL RATE > 97%

PRODUCTIVITY

- SECOND VERSION - 11.7 FP/PM (INCLUDING V.1)
- THIRD VERSION - 20 FP/PM

PERTINENCE

- USER DEVELOPED ALL PROCEDURES ON HIS OWN
- NO BUSINESS PROCESS FOUND THAT SYSTEM WOULD NOT DO

PERFORMANCE

- BATCH RUN TIMES IMPROVED WITHOUT DISRUPTING ARCHITECTURE

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Charles N. Gregory
Senior Vice President
Atkinson, Tremblay & Associates Inc. (ATA)

PROFILE

Charles Gregory is a Senior Vice President of ATA in Montreal and is responsible for the operations of the Montreal Consulting Unit and the ATA Software Factory.

Charles joined ATA in August 1983 as Vice President, Montreal Consulting Unit, and during the next five years increased business to over \$5 million in annual revenues. ATA offers a full range of information systems services, including strategic planning, systems development and implementation of advanced methodologies and tools.

In 1988, as Senior Vice President of Marketing, he was responsible for the launching of the ATA Software Factory. The mission of the Factory is to undertake the development of custom business software systems.

Prior to joining ATA, Charles worked for sixteen years for IBM Canada. When he left IBM, his position was that of Branch Manager, Montreal Banking and Transport. Prior to that he held a variety of positions in marketing management, marketing, business practices and systems engineering.

He was awarded a Bachelor of Science, Honors degree in Physics from the University of Bristol and a Diploma of Education from the University of Oxford. He started his career in education, working in France and England prior to emigrating to Canada in 1965.

Charles is an active amateur musician playing the violin and viola in orchestras and chamber music groups. He is a member of the Board of Directors of the Montreal International Music Competition.

Charles and his wife, Suzanne, live in Westmount, Quebec with their two daughters, Anne-Marie and Valerie, who both attend the Villa Ste. Marcelline school.

