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EVALUATION OF TELIDON:

PUBLIC INITIATIVES PROGRAMME

by

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Nevertheless, the responsibility for the contents of this report remains with the author.

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Windsor, Ontario.

Chapter I

PIP's Beginnings.

These are only tools.
Between the toolmakers and the users of the tools,
there is always a dangerous gap, questions.
Any answers, as you know, lie elsewhere.
(Godfrey and Chang, 1981, p. iii)

Canada is a vast land sparsly populated with people of diverse backgrounds. Nation-building is dependent upon understanding which in turn is based upon shared information. It is not surprising then, that TELIDON, a Canadian invention, which portends to improve communication should recieve a great deal of attention and support. Particularly since it also portends to provide Canadians with a stake in the microelectronic revolution at a time of high unemployment. The Canadian Government's early interest was indicated by the following:

> Since the public announcement of Telidon in August 1978, the government program has altered from a purely R&D activity to an advance on a broader front which is endeavoring to see the Telidon concept widely accepted both at home and abroad. This activity has two primary objectives -- the establishment of the appropriate Canadian standards ... and the maximization of the number of jobs available to Canadians in both the services and the manufacturing aspects of videotex.
>
> On April 2, 1979, the Minister of Communications announced a four-year Telidon program. During this period, the federal

> government is prepared to invest up to $9 million, providing industry responds with similar investments .... (Madden, 1979, p. 24)

Information Technology, which is a microelectronic based communications technology, is expected to undergo continued development in the 1980's and beyond. Some of these developments include microcomputers, videodiscs, audiodiscs and Telidon. These developments may prove to be very advantageous for the commercial sector of society.

The main question for this evaluation is: Can those organizations, which are in the not-for-profit sector, also make use of a technology such as Telidon to improve their services?

The Canadian Government on February 6, 1981 allocated $27.5 million as a stimulus for the development of Telidon. Most of this money was granted to the private (profit) sector to stimulate investment by industry through the Industry Investment Stimulation Programme (IISP). However, as a proactive response, $1 million was set aside for the not-for-profit sector for the Public Initiatives Programme (PIP). A Request For Proposals was issued on November 12, 1981 and thirty proposals were received by the December 22, 1981 deadline.

This programme was intended to make information technology available to a broad range of disadvantaged Canadians, that is, disadvantaged economically, socially and geographically. The five categories of disadvantaged to be included were: the Inuit, Disabled, Natives, Women and

Consumers. However, the technical problems for the Inuit proposals were so great that two feasibility studies were carried out as a beginning step in understanding the nature of the developmental problems that would be encountered. The feasibility studies were not included as part of this evaluation.

This report deals with the evaluation of nine of the ten projects for which contracts were signed with ten different organizations in five Provinces and one Territory to develop applications of the Telidon technology. Thus two organizations were funded for each of women: The Advisory Council on the Status of Women, Moncton; The Greater Vancouver Information and Referral Service; natives: The Council of Yukon Indians, Whitehorse; Federation of Saskatchewan Indians, Saskatoon; and disabled: Agora, Montreal; The Ontario Federation for the Cerebral Palsied, Toronto. Four consumer groups also were funded: The Automobile Protection Association, Montreal and Ottawa; The Canadian Automobile Association, Ottawa and Toronto; The Vancouver Economic Advisory Commission, Vancouver; and The Ryerson Nutrition Information Service, Toronto. The projects began during the Summer 1982 and all had a termination date of March 31, 1983 except for Agora which will continue for another year. In this report Agora will be introduced for the sake of completeness. It will be evaluated in the future by the GAMMA research group located at the University of Montreal.

Northern Native Broadcasting?

The evaluation of these projects considered the extent

to which Telidon had helped each organization reach its intended objectives as perceived by key informants in each project. Problems, limitations (or enhancements required), satisfactions, usefulness, impacts and future funding prospects were discussed. It was seen as very important that an evaluation by an outside evaluator be done especially since much of the information to be collected was of a subjective nature.

What is TELIDON?

TELIDON comes from the combination of the roots of two Greek words meaning "far" and "I saw". It was developed by the Communications Research Centre (CRC) of the Department of Communications, Government of Canada at Shirley Bay just outside Ottawa and was officially announced in August 1978 (Madden, 1979; Alexander, 1981). The following is a more technical description which comes from the CRC Technical Note No. 709-E:

> The Telidon Videotex system is a method by which information and transactional services can be accessed from information sources by the general public. By the use of a domestic home television receiver typically augmented by a micro-computer controlled interface device, a user can access pages of graphical and textual information over public common carrier communications facilities including the telplhone network, a cable television line or encoded into unused space in a broadcast television signal. In order to transmit information to a Telidon terminal at a minimum bandwidth, and in a manner independent of the type of communications channel, a coding scheme has been devised which permits the encoding of a picture into the geometric drawing elements which compose it. These "Picture Description Instrctions" are an alpha-geometrc coding model and are based on the primtives of

> POINT, LINE, ARC, RECTANGLE, POLYGON and INCREMENT. Text is encoded as (ASCII) characters along with a supplementary table of accents and secial characters. A mosaic shape table is included for compatibility. (O'Brien, Brown, Smirle, Lum & Kukulka, 1982, p. vii)

The basic invention is essentially a method of creating graphics (pictures) and text (aphanumeric characters) for a color television screen so that the information can be efficiently stored on computers and communicated down a telephone line, through coaxial cable, over fiber optics or by television broadcast to persons on request at their homes or at the office (Godfrey and Chang, 1981). This is a Canadian invention which improves on the British PRESTEL and the French ANTIOPE systems by increasing the fineness of detail in the graphic presentation and by the efficiency of communication. The British and French systems use a mosaic approach where pictures are made up of a series of blocks 1/6th the size of a cursor on a computer terminal. While Telidon uses Picture Description Instructions (PDI's) which can be sent down a narrow bandwidth telephone line in a more efficient method by compressing strings of information (PDI's). Also it is limited in its detail only by the resolution (number of lines) of the television screen and by the amount of memory in the decoder. The term Telidon is sometimes used to describe this basic invention. It is also used more generally to describe the information creation and delivery system.

A fairly typical example of the components of a Telidon system are an information or page creation (encoder)

terminal, a host computer, a television monitor, a Telidon decoder and a communications carrier (a telephone line, coaxial cable, fibre optics or broadcast television).

There are two kinds of systems: teletext and videotex. The teletext system is a one-way or non-interactive system whereby a series of "pages" are broadcast by a television station or cable television operator using either the Vertical Blanking Interval or a dedicated channel. The Vertical Blanking Interval is a space between pictures of the television broadcast which can be used to send information for about 150 to 300 Telidon "pages" and which can be "grabbed" by the use of the Telidon decoder and a keypad for display on the television screen. If a cable television operator so chooses, a channel could be dedicated for the use of Telidon whereby about 5000 frames could be cycled and still give a reasonable response time.

A videotex system is a two-way or interactive system whereby the user can both receive information from a theoretically infinite number of pages and respond to the received information such as, sending a message to a friend, purchasing items from an electronic catalogue, obtaining information concerning an appropriate community resource or paying a bill at a telebank. This system depends upon having access to a databank stored on a host computer. Such computers may be large mainframes operated by a large telephone company or newspaper, or may be a relatively small microcomputer with hard disk storage capacity owned by a non-profit organization.

PIP's Rationale

A new invention brings the potential of both good and ill. The Social and New Services Policy Division of the Broadcasting and Social Policy Branch set the tone for research in the area with the following:

> As videotex develops and gains public prominence, important issues are raised about its implications for society. The Department of Communications has a two-fold role to play in the area. It must address the social implications of new telecommunications services as a part of its general policy responsibilities; and it must ensure that the development of the Canadian videotex system (Telidon) occur in such a way that it contributes to the public good. (Plowright, 1980, p. 1)

Two of the issues identified by the Social Policy Branch were of particular importance to this evaluation: access and diversity. Access referred to the "terms by which a party can make use of system facilities for input, to offer information retrieval services, transaction types of services, or for any private uses such as messaging" (Plowright, 1980, p. 6). It was recognized that economic conditions would limit access opportunities along with the actual access rights.

The second issue, diversity, was another critical area for concern. Here there were four interrelated aspects. Structural questions relating to how databases were to be set up and whether or not it would be possible for different information providers (IP's) to establish databases. Secondly, the means of finance or the source of funds to maintain the system would be an important

consideration since it might limit the diversity of databases. Thirdly, the means of payment by the user whether by subscription or by pay-per-page might differentially effect the big or small IP. Fourthly, the question of information supported in the public interest and how such information would be provided and by whom could have a considerable impact on the non-profit undertakings. The urgent concern was shown in the following:

> These structural/financial questions urgently need to be considered. Choices are being made now with little apparent reflection (particularly in the public or policy realm) upon the probabilities for access and diversity in IP provision that will follow from what is put in place. To the user the entirety of IP databases appears as a whole: diversity, and the inclusion of public interest material, will influence attitudes to the entire system so that it is in everyone's best interest to examine these matters. (Plowright, 1980, p. 9)

It was proposed that a priority be given to a research project to study videotex configuration options and their implications for access and diversity. Research was needed to respond to concerns related to system structure or architecture, means of finance and method of payment, and "public interest" undertakings and their support. It was recognized that there was a "large policy question regarding public-interest kinds of information, that needs to be addressed eventually: the matter of how and to what extent such databases should be supplied and financed" (Plowright, 1980, p. 9).

With the concerns of access and diversity particularly related to economic constraints, it made good sense to establish the PIP projects for the not-for-profit sector.

These concerns were reflected in the objectives that were set for PIP.

Objectives for the Public Initiatives Programme

1. To contribute to page creation by generating databases appropriate to the needs of consumers, Inuit, Natives, disabled and women.
2. To support the page-creation industry by encouraging commercial and non-profit organizations to offer page-creation services. (Approx. 1/3 of activity to be dedicated to this end.)
3. To encourage the growth of Telidon and electronic publishing by training people within the selected groups in Telidon applications and page-creation.
4. To encourage the broad utilisation of Telidon by creating examples of database style and structure.
5. To demonstrate the practical capabilities of Telidon.
6. To develop demonstrations of innovative use of existing technology as related to non-profit environments.
7. To generate feedback to determine practical enhancements of the system.
8. To distribute projects across Canada both geographically and linguistically.

NOTE: While projects will be expected to meet these objectives, the priority of each goal in each project most likely will be different.

The Beginning Process

On November 12, 1981 in a news release Communications Minister Francis Fox announced a special Telidon Program for the Disadvantaged and a Request for Proposals was issued by DOC. The $1 million program was part of the $27.5 million Telidon budget announced on February 6, 1981. It was believed that something should be done for non-profit groups and that government funding was required.

In the Request for Proposals it was stated that preference would be given to projects that demonstrated the "practical capabilities of Telidon and innovative uses of the existing technology," and created "examples of style, structure and methodology for the benefit of other groups." Several restrictions were also indicated: 1) DOC could not "fund more than one major project for each of the designated groups" and would favour proposals that were disposed to "collaboration with other organizations within a designated group", 2) proposals would be favoured if they could be "incorporated into existing or planned field trials", and 3) no more than one proposal would be "supported in any given geographic area".

Prior to the issuance of the Request for Proposals, the PIP staff, Betty Weinstein, David Shaw and Craig Taylor, designed the Program. The first step was to obtain a mandate for the categories of the disadvantaged which included Women, Disabled, Native, Inuit and Consumers. Then there was a period of six months to a year where the staff embarked on an educational process whereby interested groups

were identified and made aware of the potential usefulness of Telidon. The result of this process was that 30 proposals were received by the December 22, 1981 deadline.

A selection committee was established and all of the proposals were rated on their eligibility according to application, content, network, page creation, budget, staffing and confidence level. On April 30, 1982, Communications Minister Francis Fox announced the 10 projects and the 2 feasibility studies for the Inuit. Following this announcement, contracts were negotiated with commencement dates phased in over the summer and early fall of 1982.

It should be noted that the original intention of the Program was to fund 5 projects - one for each category of disadvantaged and one in each of the 5 major geographical areas of the country. Instead, 12 projects were funded. It should also be noted that the original timetable proposed in the Request for Proposal was for some projects to start as early as January 1982 while in fact, none of the projects started before the summer of 1982. These changes required modifications to the expectations of the PIP staff in both the DOC offices and the various projects.

This then, describes the beginnings of the PIP programme. The next chapter describes the methodology of the evaluation and will be followed by the findings and then the conclusions and recommendations.

Chapter II

Methodology

The purpose of this section is to describe the methodology used in the evaluation. The discussion will include the general framework, the classification of the evaluation, the data collection procedures, the data source, the data collection schedules and a brief consideration of the limitations of this evaluation.

In order to provide a perspective, the purpose of the evaluation is restated: The main reason for this evaluation is to determine the usefulness of Telidon as a communication tool for the selected not-for-profit organizations as demonstrated by the individual PIP project.

General Framework

The general framework for this study combined the concepts of Systems Analysis and Operational Research (Churchman, 1968) with Evaluation Research (Rutman, 1977; Rossi & Freeman, 1982). There are five steps in a systems analysis:

1) identify the system including the components, and the sub-systems,

2) identify the objectives of the system,

3) identify the criteria to be used to measure the objectives,

4) identify alternative activities or programs, and

5) evaluate the alternatives consistent with the objectives.

Classification

The type of evaluation has been to some extent predetermined since the termination date for this study and the PIP projects coincide. Also, since the Telidon technology was still under development and the PIP projects were some of the very first application projects in the not-for-profit sector, an action-oriented, formative evaluation (Scriven, 1972) using a key-informant approach was considered most appropriate.

Data Sources

The primary data sources were the PIP projects' managers and page creators, artists or editors. Where appropriate, interviews were also held with management personnel in the host organizations.

User satisfaction data were elicited to the extent possible; however, there were several limitations and restrictions. Firstly, since the field trials had their own evaluations, users who were part of the field trials could not be included in this evaluation because of the

possibility of contamination of the main field trial results. As expected since a preference was stated in the RFP, many of the PIP projects were part of a field trial data base, and as such would not have users who were accessible for this evaluation. Secondly, some of the projects were not far enough developed to have an established user group by the time of the second interview. Thirdly, some members were so widely dispersed that it was not feasible to interview them.

Thus, only projects that had closed user groups who had several weeks of experience with the Telidon data base could be interviewed productively. The result of these restrictions was that only one project, NB's ONLINE, had user satisfaction data available. Unfortunately, on the day of the interview a freezing rain made travel impossible but a teleconference was arranged and information was obtained from three users. 3 users

Data Collection Method

The method of data collection was to carry out two interviews using interview guides. The first interview was to serve as a introduction of the evaluator to the project personnel to allow for a more in-depth interview in the second round. This first interview also served to familiarize the evaluator with the diverse projects. As such, the primary emphasis in the first interview was to obtain an understanding of each project, their original objectives, the objectives as stated in the contracts, and

the objectives of the sponsoring organizations. Initial questions concerning the project's activities, the usefulness and limitations of Telidon for their host organization, and future funding possibilities were asked as a stimulus for the second iterview.

Thus, the second half-life interview was able to focus much more directly on the critical or key issues of the evaluation.

Limitations

The major limitation to this evaluation was the lack of users who had sufficient experience with their newly developed data base to provide informed, practical feedback to information providers and to the evaluator. User satisfaction data collected after a three to six month period could be a very important source of information in determining the usefulness of Telidon in the not-for-profit sector.

Secondly, this evaluation was being carried out during an early stage of development. In one sense, this early stage was very fortunate as it provided information rarely available in such new developments. However, it would be important to obtain the perspectives, attitudes and experience of information providers beyond the initial development phase which was, on the one hand, an exciting, stimulating experience and on the other hand, a frustrating period working against deadlines with new technology and its expected delays in delivery and downtime.

First Interview Guide

1. Introduction: Main purpose of the evaluation
2. Objectives of Sponsoring Organizations
3. Objectives of Project (PIP)
4. Intended Activities
5. Estimated Target Population
6. Evaluate possible availability of User Satisfaction Data
7.* Perception of Usefulness of Telidon for the Sponsoring Organization
8.* Problems experienced with Telidon
9.* Limitations of Telidon
10. Arrangements and Purpose of Second On-site Visit
11.* Future Funding Possibilities
12.* Alternatives to Telidon

* To be discussed in more depth during the second on-site interview.

Second Interview Guide

1. Update project activities - extent of objectives met or expected to be met, March 31, 1983.

2. Estimated target penetration

3.* Perceptions of User Satisfaction

4.* Perception of Usefulness of Telidon

5.* Problems with Telidon

6.* Limitations of Telidon

7.* Future Funding arrangements/possibilities (Is Telidon perceived as being useful enough to seek future funding?)

8.* Alternatives to Telidon

9.* Unique features of Telidon

10.* Other observations of Impact of Telidon on Organization (Positive/Negative) (With the Introduction of Telidon what has happened to your organization (perceived impact)).

* Topics of discussion with user groups if available.

Chapter III

Findings

Murphy's Law: If anything can go wrong, it will.
(Bloch, 1982a, p. 11)

The purpose of this section was to present the findings based on two on-site interviews each of which were of several hours duration. The first round took place during the period January 13 to January 28, 1983. The second round started February 21 and was completed March 10, 1983. In most cases the second round of interviews were more candid and less formal. A relaxed atmosphere was desired in order to obtain reliable information. Certainly it can be said that all of the project personnel were very cooperative and made themselves available for all sorts of questions, probes and photographic sessions even though they were diligently engaged in the information provision process for which the PIP program was intended.

Many of the projects were behind in their schedules which were caused, for the most part, by delays in finalizing the contracts, by equipment breakdown or delays in delivery of either software, hardware or both. The projects were intended to enlighten, as one could expect, the mysteries of the "learning curve" as it related to diverse projects in different organizations in a population

dispersed geographically. Such dispersion in itself sometimes caused delays since information was not always readily available. Speaking as an external evaluator, these projects have provided an overview of Telidon applications which has been most intriguing, creative and mind expanding. It has been a most interesting experience.

gratuitous comment

A. WOMEN

GVIRS

There were two projects relating to women, 1) The Community Telidon Network of the Pacific (CTNP) pronounced "Catnip", and 2) ONLINE / SUR LE FIL sponsored by the Government of New Brunswick's Advisory Council on the Status of Women.

1. THE COMMUNITY TELIDON NETWORK OF THE PACIFIC (CTNP)

The sponsoring organization of CTNP was a social service agency named the Greater Vancouver Information and Referral Service Society (GVIRS) which provided an information and referral service relating to community resources and services for the Greater Vancouver area. However, CTNP's main orientation was to focus on the emerging area of issues and information pertaining to women.

a. Purpose of Sponsoring Organization

The second article of GVIRS' Constitution sets out the purpose of the organization:

i) To operate information and referral services in Greater Vancouver by providing information on and referring persons to, governmental, private or community services and resources;

ii) To provide information, communications, publishing, and research services for the public or for particular parties, whether or not without charge or on contract

or for fee;

iii) To assist and cooperate in the provision and development of information and referral and community communications services both in Greater Vancouver and elsewhere;

iv) To carry out public education and encourage group and individual self-development in the matter of developing access to information;

v) To advocate on behalf of the public, groups, or individual persons for just access to information and to governmental, private, or community services.

b. Objectives as Stated in the Contract

The general objectives were stated in the Contract as follows:

> The Applicant shall, ... implement the ... project to be called "Community Telidon Network of the Pacific" which shall consist of 400 pages published for the purpose of: providing a computerized public information utility for community groups in the Vancouver area, by providing information about: the community, which is of interest and benefit to women. (p.2)

400 Pages
- Are there 400?
- accessed?
- kept up?

The Pages were to include: 1) Courses Available, 2) Career & Work Opportunities, 3) Health Enhancement References and Resources, 4) Bulletin Boards for Special Interest Groups, 5) Legal Aid & Services Resources for Women, 6) Lifestyle Change Information, 7) Relationship Counselling References, 8) Housing References & Information and 9) Daycare References & Information.

Software was to be developed for the Alpha Micro computer system to allow it to be the host for the database including the receipt of pages from an Information Provider (IP) Terminal and the ability for Telidon receiver terminal to access the database. Also, a "keyword" search system was to be developed which was particularly important for the

rapid response time required for the telephone referral service and for which the "tree structure" was cumbersome. Bulletin Boards were to be supported so that the various groups in the network could interact with each other. Templates were to be constructed so that novice users could learn to be providers of information thus being full participants in the network.

c. Objectives as Identified During Interviews

The identified objectives were the same as were stated in the contract.

d. System Configuration

i) Hardware and Software

The system included a Norpak IPS-2 (699) on loan from DOC which was the main information provider terminal, the Alpha Micro computer system as host for the database, Apple IIe's (on order, - an Apple II+ had been loaned by a local dealer) with Norpak Telidon boards to act as network nodes, 1200 baud modems (on order) for communication, and one AEL Microtel terminal (others to be ordered for other users). Software was to be developed for the keyword access system and to support the database on the host computer.

ii) Personnel

Two persons were trained in the use of the page creation terminal by Dominion Directory, Vancouver and were supported by PIP. One of these persons who had University level education in both Sociology and Computer Science was the operations manager of the project. The other person became the main graphic artist and page creator.

The team was enlarged by means of a Community Recovery Program Grant from the Employment Development Branch, Canada Manpower which provided funds to employ three more persons. One was a computer programmer, another had experience in community organization, and the third had worked in a library and thus had experience with organization of information such as would be used in library catalogue systems. The overall administration of the project was carried out by the Executive Director of GVIRS. With the exception of the Executive Director, all of the persons working on the project were female which was in keeping with the spirit of the PIP category of disadvantaged groups.

e. Activities

In the opening menu page CTNP was described as "a decentralized network of community information. At this time, the focus is on information relevent to women. All material is entered and updated by participating groups."

The Community Information menu page included the following seventeen categories:

1. Education
2. Employment
3. Volunteering
4. Financial Aid
5. Legal Services
6. Health
7. Housing
8. Daycare
9. Counselling
10. Lifestyle Change
11. Family Violence
12. Issues & Advocacy
13. Recreation & Art
14. Gov't. Services
15. Library Resources
16. Reading Lists
17. Special Interest & Support Groups

By the time of the second visit the beginning work of identifying women's groups and encouraging them to participate with CTNP had largely been completed. The Organizations participating with GVIRS in CTNP were:

1. Women's Resource Centre, Vancouver
2. Lifeline Crisis and Information and Coquitlam Family Centre
3. Co-op Housing Federation
4. North Shore Women's Centre
5. South Vancouver Family Place
6. Ecumenical Women's Resource Centre
7. Poco Area Women's Centre
8. SFU Women's Centre
9. Women's Resource Centre, North Vancouver
10. Women's Centre, Douglas College, New Westminster
11. South Surrey-White Rock Women's Place
12. Burnaby Information and Referral
13. Surrey Co-ordinating Centre

A textgrid and templates for page design had been constructed to facilitate the page creation by members of the various women's groups. It was reported that many of the women had lost their fear of working on the system and were beginning to enjoy the routine. Many had never used a computer before so Telidon was an experience in computer literacy.

The computer programming was nearly completed for the keyword access; however, the programming had to be done using Basic and Assembler languages since the "C" compiler had not arrived until a week before the second visit. It was later learned that the rest of the programming was changed to the Assembler language with a resultant increase in response time.

Was it achieved?

The possibility of obtaining a gateway to the BC Tel Field Trial was still in the negotiation stage.

f. Usefulness of Telidon for Organization

There was never any doubt that Telidon was perceived as useful for GVIRS. The organization had a history of over ten years of being involved with computers. The original idea was to provide a comprehensive database of community services that was more complete and up to date than could be done manually. At that time, a Directory of Services was published but, "it deteriorates before it is back from the printers." Also, GVIRS had a file of over 2,000 resources which was based on a card file system which was difficult to update. On top of that, they were working on an expanded resources file.

Telidon was seen as a natural extention to the process of computerization. If members of the community at large were to become interested in using the community information database, it was recognized that the information would have to be presented in a more interesting fashion than just text. Telidon provided the opportunity of a much "snappier presentation". Also, if community groups were to use the system, it would have to be relatively easy to use and would have to present a relatively polished final product. Telidon was found to be more than satisfactory in this respect.

g. Limitations of Telidon System as Implemented

There were several limitations identified with the Telidon system as implemented. They were: 1) the amount of information that could be displayed on the screen was relatively small given the resolution of the terminal, 2) a

hard copy could not be obtained, 3) the tree structure required several layers of menus which slowed the access time, 4) it was still too expensive for community groups or for people to have in their homes, and it was subsequently learned that 5) modems could not be used at 1200 baud because of high error rates in the transmission which was thought due to the quality of the telephone system. The result was that communications had to restricted to 300 baud which was too slow for information retrieval during the telephone referral process. It was found that the old manual system was actually faster; hence, greater emphasis was being placed on types of information which was not available elsewhere or had a high degrade rate and which capitalized on the update facility of the computer based system. It also meant that the graphic images had to be kept relatively simple so that time would not be lost waiting for the graphic to appear on the screen. This was thought to be very important for users who used the system constantly, "It would drive them crazy waiting for it."

Another limitation was related to a problem of compatability. The retrofit for the IPS did not work so that the programming for the database was for the 709 standard while the page creation was done with the 699 standard. Then it was found that the Apple (Norpak) Telidon board produced colors which were not correct and text was produced only in white. Further, the text appears slowly since it comes out as graphics instead of character storage. Also, the smallest text size that could be created on the

Apple was too large for the AEL Microtel terminal so that it defaulted to the next largest size which limited the amount of text. Since most of the user terminals were to be Microtel terminals it was important that the pages be suited to them, which in turn limited the usefulness of the Apple's for page creation.

h. Problems Encountered During Implementation !!

There were several problems encountered which delayed the development of the database. First, there was a delay in getting the contract signed and it was not finalized until September, 1982. Second, the delivery of the IPS terminal was delayed and did not arrive until November, 1982. Third, the 709 upgrade got lost in shipment and then once it did arrive it was found that it did not work and had to be shipped back to Norpak. Thus, the computer programming for the database was done for the 709 standard, but all of the page creation was at the 699 standard. Fourth, the IPS terminal broke down for a period of approximately two weeks. Fifth, the "C" compiler did not arrive until late February, 1983. Sixth, neither the Apple IIe's nor the 1200 baud modems had arrived by the time of the second interview which was February 23, 1983. Seventh, the Norpak Board for the Apple was not available until February, 1983.

i. Satisfaction with the Telidon System

i) Information Providers

The project team was still enthusiastic with the potential of the Telidon system and were looking forward to

the full implementation of the system.

ii) Users

There were no users of the system to interview since the system was not in operation by the time of the second visit.

j. Future: Funding Prospects and Alternatives

A larger question is, 'What happened before March 31/83?'

One of the major questions was what was going to happen after the end of the contract, March 31, 1983. 1) A grant application had been made to the Vancouver Foundation for salaries for two people for 39 weeks and a computer programmer for 13 weeks as well as some minor hardware acquisitions. 2) Consideration was being given to applying for a NEED grant (Canada Employment Program) in order to continue page creation. 3) The Lottery Fund of B.C. was another possibility, but since it only funded capital equipment, it could only be used for acquisition of terminals. 4) Other possibilities included the Secretary of State, Government of Canada; and the Ministry of Labor, Government of B.C. for special purpose grants relating to women's programs. A small grant was expected from the United Way Demonstration and Development Fund.

It was thought that if all of the above funds were obtained, there would be enough resources to see "if it would fly". Timing was very important since there may be a fallow period where development could not take place. If all of the staff were lost, it would take a long time to recover. There were several plans and prospects and they were very optimistic in their outlook, but nothing was

definite. It was expected that it would take two to three years to develop a solid database that could sustain itself.

More on this is needed.

If future funding was not found there would be two alternatives. Either to continue the manual card file system (not a desired alternative) or to have a computer based system. Neither of these alternatives would allow for the community participation in the development of the database.

k. Impact of PIP on Sponsoring Organization

PIP's impact was stressful considering that GVIRS was a small organization with an annual budget of approximately $150,000 and a staff of three full-time and one half-time. In contrast, the PIP contract was for $100,000 for six months and involved five full-time staff. The PIP project took a lot of time and energy during a particularly stressful time due to the economy which resulted in a cut-back of staff for GVIRS.

On the positive side, the PIP project increased contact with other community organizations, provided more detailed information of community resources, improved public relations with a higher profile for GVIRS, encouraged more long term planning and extended the functions of the agency to include an aspect of community organization work with participating organizations becoming contributors as well as receivers of information.

1. Concluding Comments: Evaluation

It can be seen from the above documentation, that the objectives established for PIP and reflected in the Request For Proposal (RFP), the purpose (general objectives) of the sponsoring organization, the objectives as stated in the contract and as identified during the on-site interviews, and the activities or programme carried out by CTNP were consistent.

Objectives consistent

It was clear that this project had a great deal of potential as a demonstration database for Telidon, for women in particular, and for society in general. However, its future was not clear and was dependent on future funding from undetermined sources until it could be self-sustaining, i.e., until it could be cost-effective and could obtain local community support. Unfortunately at this time the database was not extensive enough, nor was the technology integrated enough to demonstrate such cost-effectiveness, in this writer's opinion.

It is expected that special funding for development of the database will be required for at least two more years. If during that time the NAPLPS standard is determined, and if the compatability of the technology is worked out, then projects such as this should be viable. It should be noted that there was a change during the planning process. In the RFP it indicated that there would be five projects. Instead twelve were funded with no increase in the total monies. As the project manager said, "It certainly would have helped to have had the $1/4 million we first started talking about."

Fair accompl.

This sh. go elsewhere

2. ONLINE / SUR LE FIL

The sponsoring organization for ONLINE / SUR LE FIL was the Advisory Council on the Status of Women, Government of New Brunswick.

a. Purpose of Sponsoring Organization

The mandate of the Council as given in the Annual Report, 1980-81 was as follows:

> The Advisory Council on the Status of Women is a body for consultation and study which was created to advise the N.B. government on matters relating to the status of women. The Council reports directly to the Premier of New Brunswick.
>
> The Act creating the Advisory Council was adopted on December 17th, 1975 and proclaimed upon the appointment of the first Council in December 1977.
>
> The Act governing the Advisory Council states that the Council shall
>
> -advise the Minister on matters relating to the status of women and
>
> -bring before the government and the public, matters of interest and concern to women.
>
> In carrying out its functions, the Council may
>
> -receive and hear petitions from individuals and groups concerning the status of women, undertake research on matters relevant to the status of women and suggest research areas that can be studied by governments, voluntary associations, private business and universities,
>
> recommend and participate in programs concerning the status of women, propose legislation, policies and practice to improve the status of women, publish reports, studies and recommendations as it deems necessary. (p. 2)

b. Objectives as Stated in the Contract

The general objectives were stated in the Implementation Schedule of the Contract as follows:

> The applicant shall, ... implement the ... project to be called "On Line/Sur le fil" which shall consist of approximately 700 pages published for the purpose of:
>
> increasing public awareness of women's issues and status; ISP stimulating increased involvement of women in matters concerning them; ISP increasing use and effectiveness of ACSW research and position papers; ISP helping connect those who have similar needs or priorities in the area of women's issues.
>
> by providing information about:
>
> activities in the women's movement in N.B.; ISP resources; needed intervention on current issues; ISP statistics and facts about women's status in N.B.; research conclusions of the ACSW. (p.2)

700 pp.

The pages were to include: 1) General Referral & Information Index - to community resources, legal information, etc., 2) Current Events & Urgent Action File: calendar of events pertaining to women's issues and up to the minute information on issues needing intervention by concerned women, 3) Network File: information on who is working on various women's issues, contacts, priorities, resources, etc., 4) ACSW & Statistics File: Abstracts and information on the Council and statistics on N.B. women.

c. Objectives as Identified During Interviews

During the on-site interviews the objectives were stated to be the same as presented in the contract.

d. System Configuration

i) Hardware and Software

The system included a Norpak IPS 2 (699), four AEL

Microtel Integrated User Terminals and two Electrohome Integrated User Terminals. The database and communications were to be handled as part of NBTel's MERCURY field trial.

ii) **Personnel**

The Project Manager was a staff member of N.B. ACSW, which meant that a sizable contribution was being made by the Council. Two staff persons were hired from the PIP grant. One, who carried out the research role, had a B.A. in History and was working on an M.A. Thesis in Sociology. The page creator was a graduate of a four year Fine Arts Graphics Art Programme. The project manager and the graphics artist received five days training on page creation at Loyalist College in Belleville, Ontario. Translation services were hired on a free lance basis. All of the project personnel were women, again in keeping with the PIP category of disadvantaged.

e. **Activities**

The main menu page included the following four categories:

1. General Referral and Information Index.
2. Urgent Action and Current Events.
3. Networking: Who's Working on ...
4. Advisory Council on the Status of Women File.

The General Referral and Information Index was an index to community social resources and services, and women's rights, based on oft-received requests for information from the Council. The Urgent Action file was a list of issues and problems that required the immediate intervention of New Brunswick women to protect their interests. The Network

file included a list of persons working on issues such as day care, violence, abuse and included groups such as government departments and resource persons. The Advisory Council file included statistics on New Bunswick women, and conclusions and facts from research reports on the Council.

Six terminals were located at Nepisiquit Public Library, Bathurst; Edmundston Public Library, Carrefour L'Assomption, Edmundston; Women's Center, 135 Henry St., Newcastle; Legislative Library, Queen St., Fredericton; ACSW, 386 St. George St., Moncton; and Federation des Dames d'Acadie, 12 Roseberry St., Campbellton, N.B. There were two further locations at Saint John at the Public Library and the NBTel Phone Center, Brunswick Square which were part of the NBTel's field trial. This was the only fully bilingual database.

f. Usefulness of Telidon for Organization

Telidon was found to be more helpful than expected. First, one of the main goals of developing content was to get women's groups working together. Second, it focused media attention on the issues of women and the Council because of the fact that it was a new technology. Third, technology had been introduced to women. Formerly technology had been painted as a problem for women, but now some of the benefits could be seen as well. Fourth, the graphics were pleasing which encouraged people to come looking for information. Fifth, new ideas could be exploited by Telidon for example, ACSW took the lead on the issue of developing kindergartens in the province, "they

sprung up like mushrooms all over the Province." Telidon could be instrumental in getting a quick response to public issues.

Telidon was able to provide practical, useful information, i.e., the procedure required for women to change their name back to their maiden name, legal questions and services, crisis centers, Human Rights Commission, how to go about getting a job, and specific information for retraining of women. Some of this information was not newsworthy and was not appropriate for a newsletter, but would often be the subject of inquiry. Such information once placed in the database could be accessed over and over and thus reduce the number of telephone calls to the ACSW. This same information placed in a newsletter would be thrown out and thus be accessable for only a short time.

g. Limitations of Telidon System as Implemented

The following limitations were identified. Very little information could be put on each page. Basically, only one point could be made per page which required an ability to condense information in a process similar to advertizing. It also required that attention be paid to continuity from one point to the next. An attempt was made to achieve some continuity by the use of graphics for example, keeping the colors the same for connected pages. Also, repetitive logos and borders were eliminated to allow the reader to focus on information.

Another limitation was the time taken for the graphic to appear. Most people expected the picture to come up as

quickly as on television. This limitation was particularly noticeable because the host computer had to be accessed via telephone lines since it was located in Saint John. It also had an impact on costs because the long distance charges had to be paid out of their budget.

The tree structure as learned at Loyalist College was found to require too many indexes which was annoying. A different tree structure was used based on NBTel's experience.

In respect to page creation, editing was found to be slow. In fact, it was faster to do the whole page over rather than trying to correct it.

In respect to the system as a whole, the database still was not very accessible since there were very few terminals. In the original proposal 12 terminals were requested but there were only enough funds for 6 terminals which were placed in public areas. In contrast, it was estimated that there were about 450 women's groups in New Brunswick of which 200 had been targeted for involvement. A further limitation was the small size of the database composed of about 350 English pages which were then translated into French for a total of approximately 700 pages.

It would have been helpful to have a printer attached to the terminals so that a hard copy could have been obtained. Particularly since the terminals were in public places and people often did not have writing materials with them to note specific information such as addresses.

h. Problems Encountered During Implementation

Several problems were encountered implementing the project which resulted in time delays and considerable frustration. The IPS did not arrive until the end of October, 1982 even though it was expected for September 1. The terminals were placed in January 1983 instead of October 1982 as planned. The project manager toured the five out of town locations during January and found that three out of the five terminals were not working. Since the translation into French had to depend on a free lance translator, there was always a backlog.

It was found that five days training in page creation was not enough and that it took three weeks just to learn to use the machine efficiently. Another problem in the page creation process was related to the fact that the project was centred in Moncton while the host computer was in Saint John. This meant that the pages were created, stored on disks, sent to Saint John and there loaded on the computer. This was particularly slow for updating and editing since they would have to get the disk back in order to make the changes. It should be noted however, that the IPS never broke down.

The result of these time delays was that by the time the database was to be complete, there would be litte time for public viewing. It was strongly felt that the contract time was too short.

i. Satisfaction with the Telidon System

i) Information Providers

The project team and the chairperson of the ACSW were very strongly in support of Telidon. Their main concern was that their work of nine months should not be wasted especially since it showed considerable promise.

This support was echoed in their disappointment of only receiving $50,000 of which half went to NBTel. Originally they thought the contract would be for $250,000 as was indicated by the RFP.

ii) Users

In order to get feedback from users, brief questionnaires had been left beside the terminals. The returns were generally quite positive. It had been planned to have a focus group of users; however, on the day of the interview there was a freezing rain and they could not drive to Moncton. Instead, a teleconference was arranged with three persons who were responsible for the terminals in the remote locations. They reported that most of the people who had used the terminals had been quite excited and pleased with Telidon.

Several concerns were expressed. Basically there was not enough information in the database (even less for the French version) and it was not up to date enough, "people who wanted information thought it was an insult to their intelligence." For example, there was nothing in the database in relation to native women, Women's Centres were listed but there was nothing on what they were doing nor did

it list contact persons. Another example was a lady who was looking for more than just common knowledge, i.e. on subjects such as abduction, wife battering, legal information and sexual harassment in the workplace. It was thought that such information ought to be available on Telidon. This raised an interesting question of what information should not go on Telidon? The concern over legal responsibility was raised.

Problems with the tree structure were found in that if one wanted to return to a previous page, they had to go all the way back to the menu unless they had jotted down the indivdual page number. They thought it would be best if they could go directly to the subject rather than having to go through the menu.

It was noted that it seemed to take a long time to make changes or updates and that not much could be written on each page, "I have worked on computers before (Air Canada) where the whole page was full." Another critique was, "the up to datedness of Telidon could be especially useful, but if it is not updated and current then it is not much use. I'm sorry if it did not work out as well as we had hoped."

The following letter was sent to the project team from one of the users who had a terminal in their Centre. Since this was the only project to provide user feedback, and since the letter presented their concerns clearly and concisely it will be reproduced in full. It was dated February 11, 1983.

After speaking to you this week via telephone, I spoke with my staff to get their opinions on the pro's and con's of Telidon and this is what we found:

To begin with the concept of Telidon is a good one, that is linking all the women's resource centres around the province and informing women of issues.

We do feel however, that there is room for improvement in some areas. To begin with we felt that an alphabetical index would be better than the present index. For example it would be easier to go direcly to the subject of abuse, rather than scanning through the General Referral and Information Index, then searching through that and finally reaching the subject you want, in this case abuse. This is time consuming, especially if the person using it is doing it on lunch hour, after work, etc.

We also feel the information is not detailed enough, we have a lot of Women's centres listed, but there is no information on what they are working on, etc. Many times you suggest that people contact government offices, for example The N.B. Dept. of Health for more information, only to have omitted the mailing address and the key person.

Under the section on rape there is quite a bit written on myth and fact, but what we really want to see here are the new amendments to the sexual assault laws under section C-127 of the Criminal Code. Section C-127 will also affect the battered wife and abused children. This is the kind of information we want to be able to put our hands on.

I believe I mentioned to you on the telephone that I could find no information for Native Women. We have had a number of native women come to our centre and we have three Indian reserves that have access to this telidon.

In summary, we feel Telidon could play the key factor in improving the status of women across New Brunswick, just by keeping them informed. We really want to see this project work and not just be turned out to pasture after a few months as being unworkable and unfeasible.

We hope to be with you on March 2nd to discuss Telidon with you and the representative from Ontario.

The incomplete database was partly a result of letting people see the database as it was being developed, but more

importantly, expectations appeared to be raised to a level which could not be met in such a short contract period. Nonetheless, it should be repeated that the users were basically pleased with Telidon but wanted more. An indication of this desire was the fact that they enquired if they could have access to other Telidon databanks in Canada. Aurora?

Present?

j. Future: Funding Prospects and Alternatives

The Telidon system was thought useful enough to look for future funding; however, since ACSW was a governmental agency its purview was limited. At the time of the last interview the N.B. Government was not going to include sufficient funding in their budget for Telidon. Arrangements were being made for the researcher to continue until September 1983 as a replacement for a staff member who was going on maternity leave. There was also a possibility that she would be able to continue on a part-time basis which would mean that the database could be updated. A funding request was made to the Secretary of State but so far there was no indication of a positive response.

The alternatives to the Telidon system would be to rely on the telephone to answer inquiries, newsletters for short term news and pamphlets for more stable information.

k. Impact of PIP on Sponsoring Organization

The major impact was to bring a good deal of public awareness to the organization and to women's issues. It also was a stimulus for a number of women's groups to work together. The development of the database will have a lasting affect, probably far in excess of its decay. ?

1. Concluding Comments: Evaluation

The documentation indicates that the activities were consistent with the objectives of PIP. A database had been established; although, not extensive enough in the opinion of the users and of this evaluator. If funds are not found for support, the database would decay relatively quickly especially for such items as "Who's working on ..." Again, the project has demonstrated within the limits of a beginning database, the usefulness of Telidon, but it appears that it has not reached its critical mass for its sponsoring organization at this time in its development.

This was the only fully bilingual database and the only project that was able to provide users for interviewing.

B. NATIVES

There were two projects relating to natives, 1) The Northern Native Broadcasting Telidon Project, Whitehorse, Yukon Territory, and 2) F.S.I.N. Telidon, Saskatoon, Saskatchewan.

1. NORTHERN NATIVE BROADCASTING TELIDON PROJECT

The sponsoring organization was Northern Native Broadcasting, Yukon Territory.

a. Purpose of Sponsoring Organization

The purpose of the sponsoring organization, Northern Native Broadcasting, Yukon, was given in the original proposal as follows:

> From the Constitution: To establish and carry on a non-profit broadcasting and communications operation for people of native ancestry primarily in the Yukon Territory. (1982, p. 1)

b. Objectives as Stated in the Contract

The general objectives were stated in the Implementation Schedule of the Contract as follows:

> The Applicant shall, ... implement the ... project to be called "Northern Native Broadcasting Telidon Project" which shall consist of pages published for the purpose of:
> improving communications services for people of native ancestry in the Yukon Territory, by providing information about: business; government; education; services; and general events. (1982, p. 2)

The pages were to include: 1) Business, 2) Social Services, 3) Community News, 4) Regulations, 5) Careers, 6) Education, 7) Consumer Services, 8) Travel, 9) Available

Services, 10) General Information.

c. Objectives as Identified During Interviews

The main objective for this trial project was to learn about the potential of the Telidon system, determine how it could best apply to the Yukon, train staff in its operation and arrange for the extension of its service to all Yukon communities. To be more specific, PIP was being used as a learning experience:

1) To find out what was involved in a Telidon system, what it could do for the organization and to become trained in its operation. It was an opportunity to plan its development and growth based on experience before making a commitment to the type of technology to utilize.

2) To educate community members to understand what Telidon was and what it could do for them, for example, how to use visuals. To that point, most of the communication was by telephone whereas sometimes a visual presentation was needed. This educational process was dependent upon having a system and a database to demonstrate to the local community.

3) To develop a database and to determine what areas were most important and useful for natives and the Yukon.

4) To learn how to translate existing material into the Telidon format. This was seen as a major obstacle because most information was originally oriented to the print medium. This information then needed to be edited down to a page format which required judgements as to what to include and exclude. Much of the content was specialized

information i.e., the law. There was a difficulty in getting people to take the time to explain their specialized information and to work with the project team. The project team was discovering that information givers needed to learn the medium and how to prepare information for it. Some did not see the relevance and importance since they were busy with their own job. It was thought that a terminal was needed on location so that community members could see the outcome of their work.

d. System Configuration

i) Hardware and Software:

The system had to stand alone since there was no field trial on which to piggy back. It was hoped that this system could stand as an example of a low cost independent system. The main page creation terminal was the first production model, a Norpak GC1000 (709). A graphics tablet was not included much to the dismay of the artist. In the contract it was established that the host computer system would be based on a Tayson IBM; however, it was not available. Instead, two Apple microcomputers with FORMIC software were on order at the time of the second interview. At that time, February 22, 1983, the telephone lines were in place to four communities and Whitehorse and one of the five AEL Microtel (VTX202) user terminals had arrived. It was hoped that all of the equipment would be in place prior to the termination date of the contract which was March 31, 1983. It was also hoped that the contract could be extended until at least June, 1983. Was it?

ii) **Personnel:**

The project team was composed of two persons, the project manager who had experience in both journalism and television, and a page creator who was a young native Yukon artist. Both of them had received five days training at Dominion Directory, Vancouver, B.C.

e. **Activities**

The primary target was the approximate 5,000 native Yukon population. The secondary target was the approximate 24,000 Yukon population and commercial interests which may, sometime in the future, provide the economic foundation for a continuing service.

About 250 pages had been created at the time of the second interview with the expectation that 400 would be completed by March 31, 1983 provided there were no more equipment failures.

Information had been developed concerning Airline Schedules (very important for the North); Bus Schedules; Fur Trapping: prices, regulations, auction dates and grading information; Native Products: materials, leathers & furs, notions, how to order materials. Since the arrival date of the computer system was undetermined, the major emphasis of page creation was to develop relatively stable materials. The most recent activity was putting on a course for the Yukon Vocational and Training Centre which was expected to include 30 pages. Some demonstration pages for advertising had been done.

f. Usefulness of Telidon for Organization

The purpose of the sponsoring organization was communications and since Telidon was a communications medium there was a good fit. In the North there were little pockets of communities. Their communication was by road, telephone, radio (C.B.C. National plus a Whitehorse orientation), television brought in by satellite, and newspapers (The Whitehorse Star publishes three times per week). There was a problem obtaining up-to-date local information in the remote communities regarding business and government activities for example, contracts on bush cutting. Much of the information was sporadic and by word of mouth. It was thought that Telidon could provide current information to contact persons in the remote communities. "The North does not have a high-level information stream like persons in the South." Telidon could also help people in Whitehorse know what else was going on in the Yukon. Telidon was seen as a unique medium for a very meaningful service - on line 24 hours per day, 7 days per week.

g. Limitations of Telidon System as Implemented

The system had not been implemented.

The page creation system (GC1000) was found to be slow, have limited memory which excluded animation, and to be inconvenient for page retrieval. The beginning implementation was to be a one-way system with the possibility that it could become a fully integrated two-way computer based system sometime in the longer term.

h. Problems Encountered During Implementation

The major problems were equipment breakdown and non-delivery of equipment. The GC1000 continually crashed and at one point was down for three weeks. The Apple computers and the FORMIC software had still not arrived at the time of the second interview.

i. Satisfaction with the Telidon System

i) Information Providers:

The project team was "overwhelmed by the potential of Telidon" but were becoming somewhat impatient with the lack of the needed equipment.

ii) Users:

There were no users.

j. Future: Funding Prospects and Alternatives

Northern Native Broadcasting was not able to fund Telidon in its present state of development. Further funding for development was required. Enquiries were being made with the Secretary of State and the Department of Indian and Northern Development; however, no positive response had been received to that point.

What point?

It was also hoped that the Department of Communication would continue funding the project since they were working in a unique area. The system could be a model for an in-house corporate information system that required both graphics and text. "Once we have a system up and running for demonstration for groups we may be able to get funding but at this time all we have to go with - is confusion."

k. Impact of PIP on Sponsoring Organization

The PIP project had engendered considerable excitment with its potential.

l. Concluding Comments: Evaluation

The activities, objectives of the PIP project, purpose of the sponsoring organization and the objectives of PIP were consistent. This project has the potential to demonstrate a relatively small stand-alone system. It will be very interesting to see its implementation. It will also require further funding in order to develop a database that can be demonstrated.

2. F.S.I.N. TELIDON

The sponsoring organization for this project was the Federation of Saskatchewan Indian Nations with offices at Saskatoon, Saskatchewan.

a. Purpose of Sponsoring Organization

The purpose of the sponsoring organization was outlined in the original proposal for the PIP project:

> The Federation of Saskatchewan Indians (FSI) is a non-profit corporation, with tax-exempt status. It is a member organization of the National Indian Brotherhood. It is the representation organization of some 50,000 Dene/Dakota/Cree and other registered Indians of the Province of Saskatchewan. It receives funding from several agencies of the Federal government, from the government of Saskatchewan and from private foundations, trusts and corporate donors. In April, 1981, in a landmark agreement, the government of Saskatchewan formally recognized that the FSI was the principal representative organization of the Indians of Saskatchewan and that, as such, it had "governmental" functions.
>
> In the last decade the FSI has begun to implement a systematic plan of development;
>
> 1. to recover the integrity of the Indian landbase;
> 2. to restore the Indian culture;
> 3. to build up an Indian education system which now includes
> a) a cultural college;
> b) a vocational community college;
> c) a university college accredited by the University of Regina;
> d) a network of primary schools and high schools;
> e) mobile classrooms and workshops;
> f) educational publishing and audio-visual technical resource groups;
> 4. local, district and regional administrative and governmental centres under the control of the chiefs;
> 5. economic development and resource management groups;
> 6. a development corporation;
> 7. social support agencies;
> 8. a communications unit.
>
> Most of the Indian institutions necessary for

> development are in place. The FSI's principal objective in the 1980's is to integrate the local, district and regional elements of these institutions and to gear up their productivity. The economic aspects of this integrated plan is based on the dual concept of: a) self-reliance for the individual communities together with, b) dynamic, equity participation in the provincial, national and international economies. (August 14, 1981, p. 6-8)

b. Objectives as Stated in the Contract

The general objectives were stated in the Implementation Schedule of the Contract as follows:

> The applicant shall, ... implement the ... project to be called F.S.I.N. Telidon which shall consist of 1600 pages published for the purpose of:
>
> meeting specific information needs of 69 Indian Bands and Communities in Saskatchewan by providing information about: industries; industrial and community economic development, continuing education; health education; and medical programs. (1982, p. 2)

The pages were to include: 1) Internal administrative system of FSI in Prince Albert, Regina and Saskatoon; Directory of services, Database, Centralized accounting and integrated administration of all allied institutions, 2) Sinco Development Corp; Inventory, Schedules, Markets, Invoices, Coordination of economic planning and development projects, 3) Directory of Services of Regional, District and local colleges and schools; instruction on specific topics, auxiliary teacher aids, 4) Diagnostic aid for community health centres; health education in nutrition and sanitation, preventive health information, identification of drug abuse.

c. Objectives as Identified During Interviews

The project manager provided the following three objectives for the PIP project:

1. To gain a working knowledge of the Telidon technology, including the training of persons in page creation, proper message preparation for this medium and the acquisition of technical expertise in the setting up and maintenance of a Telidon data base.
2. The creation of 1600 pages of videotex information to form a part of Sask Tel's Pathfinder Data Base.
3. Conduct a three month field trial of the Telidon system vis a vis its applicability to the information and education needs of the Indian population of Saskatchewan. As well as assess Telidon's possible future commercial potential.

d. System Configuration

i) Hardware and Software:

The system included one Norpak IPS 2 (699) Page Creation Terminal. The contract plan was to be part of Phase II of the SaskTel Pathfinder Field Trial starting December 1982 until March 31, 1983. Unfortunately, Phase II was delayed in its starting date until March 31, 1983 which effectively abolished the field trial portion of the project since its termination date was also March 31, 1983.

As part of the field trial it was expected to have 15 terminals: one in each of seven districts, one in each of

three colleges, one in each of three F.S.I. offices, one at SINCO and one with the Telidon project. With the aborted field trial they had to scrounge for terminals. It was hoped that at least nine could be obtained. As of the second interview dated February 25, 1983 they had nine decoders, four Electrohome RGB monitors, nine RGB cables and keypads, but no modems without which none of the above could operate.

ii) **Personnel:**

The contract was dated June 17, 1982. The first project manager left the project and a new manager took over on October 1, 1982. Two page creators were trained at Dominion Directory, Vancouver, B.C. One of these page creators left the project in the fall and was replaced by a graphics artist from the Univerity of Saskatchewan. For about one month in the fall an editor was employed. However, since the PIP contract did not cover the cost, and the FSI budget became very tight, she had to be laid off much to the disappointment of the project staff. It was believed that the lack of an editor was one of the reasons why the number of expected pages had to be reduced from 1600 to 700.

e. **Activities**

There was a well thought out plan for the development of the data base. There were seven major headings: 1) Federation of Saskatchewan Indian Nations, 2) Indian Economic Development, 3) Indian Education, 4) Indian Culture and Recreation, 5) Community Health and Welfare, 6) Indian

Home and Family, and 7) FSIN Telidon.

One of the most interesting ideas was to use this new technological medium to help preserve the past. For example, several Indian legends were being developed for the system as part of the contribution from the Cultural College. One was the Saulteaux Legend of Nanabush and the Muskrat. Another use of Telidon was to describe geological fault and fold traps to help Band members understand the seismic process in oil exploration.

It had also been planned to have a closed user group including the district offices which would provide program budgets, FSIN policy statements, new and amended directives, band and district policies and communiques.

f. Usefulness of Telidon for Organization

Telidon was thought to be useful for directory type of information that one would want not too frequently, but would make use of the updating facility. Information in respect to cardio pulmonary resuscitation or poison control were given as examples. It was also thought that Education could make good use of Telidon although, "it would be hard to read for long periods of time and would likely cause eye strain." Its slowness in developing graphics and in accessing the database would tend to make it boring. "If it could increase the animation characteristics it would be better, i.e., similar to Apple Graphics."

g. Limitations of Telidon System as Implemented

Telidon was seen as a partial technology. Two way interactive systems were seen as the way of the future with low cost computers communicating via glass fibre optics. For sending graphic messages Telidon was seen as one of the best ways but the speed of communication had to change. The buildup of the graphic image took too long, and the tree structure for data access was too slow. Also, it was believed that people would not be willing to pay for Telidon until the costs were considerably reduced. The resolution of an ordinary T.V. set was not up to the standard for computer graphics. Updating was a slow process. It was thougt that variables should be able to be entered which would allow for rotation and animation. Global search should be available.

h. Problems Encountered During Implementation

A number of problems were encountered. From an organizational standpoint, the Federation of Saskatchewan Indian Nations went through a very trying period when their organization shrunk from a staff of 300 to approximately 70. A new Provincial Government was elected with a resulting review of contracts and a delay in quarterly payments. The Federation had heavily invested in the Aboriginal Rights issue. It was very disappointing to the project staff because, "what we had as an organization was ideal for testing the technology."

From a technical standpoint, there were a number of problems including a month long breakdown of the IPS (the

graphics wedge never did work), the delayed field trial, the scrounging for equipment, and the project staff turnover.

i. Satisfaction with the Telidon System

i) Information Providers:

Basically, the information providers were very disappointed with the lack of a field trial and the many uncertainties for the future. Their morale was understandably very low.

ii) Users:

There were no users.

j. Future: Funding Prospects and Alternatives

At the time of the second visit an attempt was being made to find a new home for the Telidon project. It was thought that the Saskatchewan Indian Community College might be the best possibility because Telidon would have an immediate application in its educational programme. It would also provide visibility and give other areas time to develop their applications. At the Community College it would still come under the auspices of FSIN. One of the immediate applications was for distance education, particularly upgrading for the levels of grades 8 to 10. Many other courses could also be developed i.e., mechanics. There were no definite sources for funding at that time. It was hoped that DOC would provide at least six month's transitional funding.

An alternative for the closed user group, the District and Band Offices, would likely be a computer network sometime in the future.

k. Impact of PIP on Sponsoring Organization

Even though this was one of the largest PIP projects, it appeared that there was minimal impact on the organization. The large amount of restructuring, project staff turnover, and the lack of a field trial no doubt detracted from the project.

l. Concluding Comments: Evaluation

At the outset this was a very promising project. Its potential has yet to be realized. Unless a field trial is established, its potential will not be demonstrated. Funding will be required at least for a field trial.

C. DISABLED

There were two projects relating to the disabled, 1) INFODATA sponsored by the Ontario Federation for the Cerebral Palsied located at Toronto, and 2) AGORA, centred at Universite du Quebec a Montreal. Since Agora has a 1 1/2 year contract and will be evaluated by the GAMMA group located at the University of Montreal, it will only be introduced in this evaluation.

1. INFODATA

The Ontario Federation for the Cerebral Palsied (OFCP) was founded in 1947 with three parent groups. It had grown to include 50 member groups in 1982. In the Annual Report the Executive Director included the following statement which explained the nature of the organization.

> Treatment centres operated by member groups in the late 40's provided programs specifically for children with Cerebral Palsy. In 1982, programs available in numerous projects across the province, serve persons with a wide variety of disabilities. In the beginning, the membership was mainly comprised of parents of children with Cerebral Palsy ... today's membership includes representation from every segment of the population -- parents, the disabled, the medical profession, educators, business and government. It would be difficult to estimate the number of volunteers that were involved during the early years; if it were possible, I am sure that the figure would fall far short of the over 8,000 who were involved in Federation activites this past year. (1982, p.2)

a. Purpose of Sponsoring Organization

The purpose of OFCP was outlined in a pamphlet which described the organization as:

> a voluntary, provincial non-profit organization, committed to serving and working with the disabled in the areas of:
>
> --equality of programs, services & facilities for all physically & multiply-disabled,
> --education & employment opportunities,
> --prevention & professional awareness of the disabled,
> --funding for applied research programs, hospital birth equipment and scholarships.

b. Objectives as Stated in the Contract

The objectives as stated in the contract appear on page 2 of the implementation schedule which stated:

> The Applicant shall ... implement the ... project to be called "INFODATA" which shall consist of 750 pages published for the purpose of improving the quality of life for the physically disabled by providing information about services, lifeskills, programs. (1982, p.2)

The pages were to include information concerning: 1) Disabilities, 2) Aids and Devices, 3) Mobility, 4) Recreation, 5) Accessibility, 6) Independent Living and 7) Interpersonal Relations.

Software was also required for the Apple II microcomputers which were to act as nodes for the beginning computer network. This meant that each database of each mode would have to mesh with the provincial database.

c. Objectives as Identified During Interviews

The primary objective was to develop a communication network among member agencies. This network was to include a provincial database located at the OFCP office. It was to include an Apple II computer with a fixed disk which would have a capacity for a 3,000 page database. The four nodes

would be Apple II computers with floppy disks and be located in Markham, Hamilton, Brantford and Holland Centre.

The second objective was to develop communication with the community at large to increase the community awareness of the needs of the handicapped with particular emphasis on accessibility to buildings and services.

The third objective was for fund raising.

The fourth objective was to provide training for the handicapped in the use of Telidon with the possibility of the disabled being able to obtain employment in this electronics field.

The fifth and last objective was to use Telidon as an aid for independent living like a prosthetic aid.

d. System Configuration

i) Hardware and Software:

The contract provided one Norpak IPS 2 (699) Page Creation Terminal on loan to March 31, 1983. The five Apple II+'s were bought by the facilities and not the PIP project. One of those Apples was dedicated to Telidon and the others were general purpose computers that would also be used for the Telidon network. A five megabyte Corvus fixed disk was to provide the storage for the main provincial database. Five 1200 baud modems with auto answer, auto dial made by Novation had been purchased, and five Electrohome color monitors and five Mark II decoders from Norpak had been obtained on loan.

After initial consideration of the Telidon Board made by Norpak for the Apple, it was rejected because of the low

resolution. It was eventually decided to use the software by FORMIC. By the second interview (March 10, 1983) the Formic software was in place to the extent that pages could be created even though they could not be edited. FORMIC had promised to have the editing package available within 35 days.

It was expected that OFCP would continue to be involved with the Ontario Education Communication Authority (OECA, TV-Ontario).

ii) Personnel:

None of the personnel were provided by the PIP project. There was no need for training as the personnel had already been trained under the field trial with OECA.

The project group was made up of a Project Director, a Project Manager, three persons who were hired under the Canada Community Development Program (CCDP) through the Canada Employment and Immigration Commission (CEIC), and a fourth person who was donating his time until a program could be arranged to pay him. All of the employees were disabled. One was hearing handicapped and one used a mouth stick with a specially modified "custom" toggle shift key on the Apple. The present working group was funded until the end of January 31, 1984.

e. Activities

OFCP has been actively involved with Telidon for 2 1/2 years. They started with a volunteer committee with TV Ontario. Altogether it was estimated that 1,000 pages had been created. The main menu for the database listed the

following items: 1) OFCP Infodata is, 2) Today's Bulletin, 3) OFPH Members, 4) Accessibility, 5) CRCD Members, 6) Recreation, 7) Independent Living, 8) Aids and Devices, and 9) Disabilities. Example pages were demonstrated showing services that were accessible such as apartment blocks, educational institutions and churches.

In respect to the software, FORMIC had modified the software to work with a CORVUS fixed disk. The project group had started to establish the structure for the databases so the nodes could intermesh with the provincial base.

f. Usefulness of Telidon for Organization

Usefulness for the organization was seen from a number of viewpoints. Firstly, the number of disabled was estimated to be at between 10% and 11% of the population. That would mean there were about 800,000 disabled in Ontario. However, within the organization only 3,000 were being served. Secondly, the Telidon system was seen as a way of drawing together the various groups as they learned how to use the technology to their advantage. Thirdly, the idea of developing a database which could be updated relatively easily was appealing for content areas, such as accessability which changed continuously. It was also thought useful for longer term reference material, such as legislation. Lastly, the idea of using the disabled to both create pages and to decide what to put on the system was thought to give the content of the database a particular slant. It would be problem focused from the viewpoint of

the disabled vs. a Bureaucratic orientation.

g. Limitations of Telidon System as Implemented

Several limitations or enhancements were suggested. Firstly, a large key pad should be developed for persons who do not have the full use of their hands.

Second, a main limitation of the system was the implied philosophy of two-way communication. However, it was found to be interactive only in the sense that a person could request information which was not really interactive in the full meaning of the word. What they were looking at was a need for an interactive system whereby the nodes could develop and create the databases and share those databases among the other nodes and the provincial base.

'passive' interactive

A third limitation was the problem of changing standards, that is from 699 to 709. All their database was developed under the 699 standard and they were questioning what was going to happen in attempting to upgrade to the 709 standard, to say nothing of NAPLPS.

Fourth, it was a shock to find that when you wanted to switch your communication from receive to transmit that they actually had to pull plugs to make that switch. That would be an insurmountable obstacle for someone who did not have the facility to do same. What was required was an automatic gateway system which would not require the pulling of plugs or redialing of a second telephone number. Related to this problem they found that in trying to communicate over long distance there were problems with the local telephone system. They had attempted to access the DOC database but

had yet to receive a full page without an error in transmission. At the present time they only had one port on the central office computer and they would like to be able to extend that to four ports.

h. Problems Encountered During Implementation

The major problem encountered was the delay in receiving the software to develop the network. Another delay was that the 1200 baud modems were not available until late February, and in fact they were still waiting for two more to be delivered even though it was only three weeks before the end of the contract.

i. Satisfaction with the Telidon System

i) Information Providers:

Who?

The information providers were enthusiastically developing the pages. It was reported that for some this was a rather unique experience since the Telidon project was providing them with a way of expression that was unavailable to them before. In fact, the project group was demonstrating that the disabled could be trained in its use which means that it could be a gateway to future employment.

ii) Users:

There were no users of this system since it had not been implemented.

j. Future: Funding Prospects and Alternatives

In respect to future funding an application had been made for a NEED grant through the CIEC which was for five persons plus a secretary to cover a one year time span. The CIEC wanted them to take twelve people for six months but

that "would be a disaster because training a page creator takes three months." An application had been made to the Apple Computer Company for equipment grants so that they could have Apples dedicated to the Telidon system at each network node. They would also like to have fixed disks at each location.

It was believed it would take at least another year before the system would have the potential to be viable. They thought it would take a database of approximately 10,000 pages for it to show viability. It was hoped they would be able to continue to have a loan of the IPS equipment and hoped that they could bring in some funds for administration.

If future funding did not come through they did not really see an alternative to Telidon since the main alternative would be a hard copy or print medium which for many disabled was an inaccessible system. Telidon with its graphics appears more interesting and more user friendly and less frightening. User friendliness was thought to be particularly important for many of the disabled who had not had an opportunity to be involved with computers before.

The last hope for funding was the possibility of receiving support from the Ontario Federation for the Physiclly Handicapped (March of Dimes). However, their funds were continually in demand. It was believed unlikely that they would fund a system until it was up and running and could demonstrate its usefulness and viability which was at least one year and more likely two years down the road.

k. Impact of PIP on Sponsoring Organization

The major impact of the PIP grant on the sponsoring organization was that of excitement. They were very proud of their computer facilities and the IPS. It was seen as an opportunity for the disabled community to draw closer together and to work to establish a better quality of life. The second aspect of the impact was that it was not easy for a charitable organization to stretch their resources for such a large project. The project manager at that point was spending one day a week on the project and would "dearly love to spend more time." The PIP monies were primarily for capital expenditures and only 10% was set aside for administraion which was not enough.

l. Concluding Comments: Evaluation

This project demonstrates again the consistency of the objectives and the activities as observed. This project has a very real potential for developing and improving the quality of life for the disabled. The OFCP has been involved with Telidon for 2 1/2 years and it is likely that they will continue to be involved. The possibility that some disabled who were formerly unable to be employed and who now, through the use of the new electronic medium, are able to contribute to society is indeed an accomplishment.

2. AGORA

AGORA was one of the largest Telidon field trials in Canada of which PIP was a part. The contract period was for 18 months instead of 9, and it was close to the half way point. It was to be evaluated by GAMMA, University of Montreal, and thus only a little information will be presented here to round out the picture of PIP.

AGORA's page creation facilities were located at the Telematics Laboratory, Communication Department, UQAM. PIP's contribution was to work (animation) with closed user handicapped groups to help them prepare their own information materials. Information domains as indicated on the main menu page for the handicapped included: 1) Health and Social Services, 2) Employment, 3) Education, 4) Recreation, 5) Housing, 6) Rehabilitation, and 7) General (information).

Another aspect of AGORA was the use of the Telidon medium to bring together those working in the area of Telematics as user groups. It was expected that a 10 page Journal be produced every two weeks by the user groups.

The Hardware system was a hybrid: unidirectional, 188 decoders in homes using cable television, Telecable Videotron; and bi-directional, 20 integrated user terminals in the community centres (closed user groups) using telephone. There was space for 20,000 pages on the computer located at Telcable Videotron.

This was a very exciting project. We look forward to seeing the results.

Why nothing more on Agora?

D. CONSUMERS

There were four projects related to consumers: 1) Food and Nutrition Information on Telidon, sponsored by the Nutrition Information Service, Learning Resources Centre, Ryerson Polytechnical Institute at Toronto; 2) Automobile Protection, sponsored by the Automobile Protection Association, Ottawa; 3) CAA HELP, sponsored by the Canadian Automobile Association, Ottawa, and carried out by the Toronto Club, Ontario Motor League; and 4) Vancouver's Economic Strategy for the 80s, sponsored by the Vancouver Economic Advisory Commission, City of Vancouver.

1. FOOD AND NUTRITION INFORMATION ON TELIDON

This project was sponsored by the Nutrition Information Service which was formed in 1979 as an operating part of the Ryerson Library with the Goal: to collect and make available information on nutrition and related aspects of health care, toward facilitating the preventative health care.

a. Purpose of Sponsoring Organization

The objectives of the Nutrition Information Service were as follows:

I Provision of Information

1. To select, collect and make available information on such material by:
   (a) acquiring material through federal, provincial and municipal government departments, as well as private enterprise, professional groups and the publishing industry in general
   (b) provision of a reference and referral service using print and electronic communication systems.

(c) acting as a distribution centre for nutrition information.

2. To prepare a catalogue listing, including some reviews, of material available through the Nutrition Information Service.
3. To establish an "Address File" for sources of ordering nutrition information.
4. To promote the sharing of information in nutrition and health by providing resource lists, bibliographies and reviews etc.

II Linkage With Other Organizations

1. To foster close association and co-ordination with organizations and associations in the fields of nutrition and health.
2. To prepare a directory of Canadian organizations, institutions, associations, companies, etc. who are involved in the field of nutrition.

III Field Experience for Ryerson Students

1. To provide experience for Ryerson students who contribute their time in the Nutrition Information Service. This experience could take the form of an increased awareness of both the literature and the organizations in the field of nutrition.

b. Objectives as Stated in the Contract

The objectives as stated in the Implementation Schedule of the Contract were:

> The Applicant shall, ...implement the ... project to be called "Food and Nutrition Information on Telidon" which shall consist of TWO THOUSAND FOUR HUNDRED AND TEN (2410) pages published for the purpose of improving the health of consumers by providing information about: Food and Nutrition, and access to such information through easily obtainable booklets, pamphlets, etc., and games on Telidon. (1982, p. 2)

The pages were to include: 1) Nutrition Games, English, 2) Nutrition Games, French, and 3) Bibliographic Data Base, English.

c. Objectives as Identified During Interviews

The objectives identified in the interviews were the same as in the contract.

d. System Configuration

i) Hardware and Software:

The hardware consisted of a Vista IFS 1.5 (699) from Northern Telecom via Infomart, an Apple IIe with 2 floppy disk drives, a 710 communications board, a RGB monitor and a Microtel decoder. The Apple had been received only two weeks before the second site visit which occured on March 10, 1983. It had not yet been connected to Vista as a terminal although that was the intention.

The software was to be obtained from ASYNC. It was required to convert the existing bibliographic database of some 2,000 references for pamphlets which were on Ryerson's DEC-10. The bibliography was to be transferred to the Apple, formatted for Telidon and then transferred to the Vista field trial.

ii) Personnel:

The project team included a project manager, a project coordinator, a Nutrition Graduate from Ryerson who took a 20 hour self-paced training course from Infomart who was the page creator. In January, a fourth person to help with the data transfer was brought in and was trained by the page creator.

e. Activities

The contract was dated September 9, 1982 and the project was implemented on October 1, 1982. It was preceded by five months of negotiation between the Sponsor, Infomart and DOC. The project proposal was modified, and then changed back to the original idea resulting in considerable confusion and frustration. In the field of nutrition there is a great deal of information, some of which is based on scientific knowledge, and some is based on folklore which may, or may not be helpful. It was thought that by putting correct information in a game format it would attract attention and thus provide a preventative health service.

In discussion with Infomart personnel it was found that software was in existence for the game HANGMAN. The object of this game was to guess a word. If the word was not guessed correctly within a certain number of tries, a person (symbolically) would be hung. Since hanging a person was not in keeping with a healthful objective, the name was changed to SPACE-BYTE and instead of a person being hung, the space person would turn grey. The space person would get a bite out of an apple if they were correct. Following the guessing of a word (a food) the game player would be asked if they wanted to learn more about the food and if so would be taken to a subset of pages concerning that food. This game was put on Vista on February 11. It had also been translated into French but it had not been implemented on the system.

The nutrition information service had collected over

10,000 pamphlets that dealt with nutrition. In 1981 they published an "Index of Free and Inexpensive Food and Nutrition Information Materials" based on a selection of the best 2,000 pamphlets. It was thought that this information would be of interest to the general public as consumers and would be an example of a large database for Telidon. This database would require updating on a fairly frequent basis. Borders and headers were made in an attempt to make the bibliographic entries more appealing.

f. Usefulness of Telidon for Organization

In order for nutrition information to contribute to preventative health, there needed to be a way of attracting the public's attention. The vividness of the color and the excellence of the graphics were thought to provide the ability to attract attention.

It was thought that the updating capacity of Telidon would make it easier to keep the very large bibliographic type database current. The type of information was changing quite rapidly as new pamphlets were being published from many different scources.

g. Limitations of Telidon System as Implemented

Only one game had been implemented, and that one had only been on the system for a few weeks.

The potential for interactivity whereby consumers could order the pamphlets directly through the system was interesting; however, that was not possible and was seen as a limitation. Alphanumeric keyboards were required in order to search and find data in such a large database. The tree

structure was not adequate. The slowness with which data came up was a problem for libraries and it was expected that online computer searches would be more appropriate especially for "hard core" information.

h. Problems Encountered During Implementation

A second game based on the idea of a maze was to have been developed, but the software had been taken off the Vista system and the new package was not ready for implementation. Instead of a second game, the SPACE-BYTE game was enlarged. The translation of this game into French was not straight-forward because of the accents, and the differences in such things as the length of the words, two-word answers or hyphenated words. It was also found that the milestones as specified in the contract were too strict. It was hoped that a third game called "O Canada" could be put on the Vista system, but it was not likely unless the contract was extended.

The IPS sometimes would take a long time carring out some functions such as erasing, and was thought to be due to power conditions. It was suggested that a $600 unit be purchased to even out the flow of electricity.

The software for the database transfer was taking longer than expected. All of the necessary equipment had arrived, and about 80% of the DEC-10 to Apple transfer software had been written. Unfortunately there was only three weeks left on the PIP contract.

Another problem was the continual change in the technology with which it was hard to keep abreast, for

example, the retrofit for the 709 standard, no fill patterns, and no underline. "We often would not find out about them except through the grapevine."

i. Satisfaction with the Telidon System

i) Information Providers:

In general the information providers were quite satisfied with Telidon to the extent it had been implemented. Understandably, they were frustrated with the delays in the implementation, and with the contracting process.

ii) Users:

There were no users to be interviewed since they were part of the Vista Field Trial. During the week of February 21-27 there were 742 "Hits" or accesses to the game.

j. Future: Funding Prospects and Alternatives

At the point of the second visit there were no future funding prospects in sight. If no funding became available they would lose the page creators with a great loss in expertise.

Alternatives to Telidon such as the use of pamphlets were not desired alternatives. If the games were translated into a paper and pencil format, they would not be effective from a preventative health point of view. While the games could be programmed for microcomputers, that would take a good deal of development time.

It was thought that more should be done to make Telidon available in other areas of the educational institution i.e., in the instruction of students. It was noted that

Ryerson was involved and committed to developing educational applications for microcomputers. It was not known whether or not a similar commitment could be obtained for Telidon.

k. Impact of PIP on Sponsoring Organization

The project brought a lot of curiosity and interest but was somewhat inhibited by the lack of a user terminal so that they could demonstrate what was being done. The project group would have liked to have shown their work to the President of Ryerson, for example.

The project took a lot more of the Manager's time than expected for which there was not adequate funding. While it was considered a worthwhile project in which a lot had been learned, if they had to do it over again, they would want a lot more clarification of responsibilities especially with the field trial operators.

l. Concluding Comments: Evaluation

This project provided the opportunity to test out the use of games developed using Telidon as a preventative health measure. It also provided the opportunity to test out Telidon's effectiveness with a large database of content which required continual updating. Further, software was being developed to aid in the transfer of an existing electronic database to a field trial using microcomputers.

It will be very interesting to see the response of users to these applications once fully implemented. The objectives of PIP have been met to the extent possible given the time frame.

2. AUTOMOBILE PROTECTION

This project was sponsored by the Automobile Protection Association (APA) located at Ottawa.

a. Purpose of Sponsoring Organization

The history and the purpose of the sponsoring organization can be found in a pamphlet describing the APA:

> The Automobile Protection Association is a non-profit, public-interest, consumer group founded by Phil Edmonston in 1969 to aid motorists victimized by dishonest or dangerous practices in the automobile industry.
>
> Line of Action
>
> The APA's attack on the incompetence and corrupt practices of corporations and private transactors is twofold: preventive and corrective.
>
> 1) Preventive Measures
>
> Prior to making any transactions the motorist may consult an APA counsellor concerning the quality of various products and services. Once aware of a widespread or potentially dangerous abuse, the APA will stage a press conference to alert the public. The APA also exerts pressure on the Federal and Provincial Governments to enact and enforce adequate consumer protection legislation.
>
> 2) Corrective Measures
>
> To assist those who have already suffered from questionable practices, the APA takes the action appropriate to each case. In most instances, this means informing the victim of his rights and the proper procedure to follow in asserting them. (APA At Your Service!, p. 2)

b. Objectives as Stated in the Contract

The objectives can be found on page 2 of the implementation schedule and reads as follows:

> The applicant shall, ... implement the ... project to be called "Automobile Protection" which

> shall consist of a minimum of 56 pages and an interactive service published for the purpose of improving the capability of consumers to make wise purchasing decisions with respect to automobiles and related services by providing information about automobiles, automobile defects, and consumer-help services. (1982, p. 2)

The pages were to include: 1) Interactive action-page task, 2) Information pages, and 3) Animation.

c. Objectives as Identified During Interviews

At the time of the first on-site interview, the objectives were the same as were written in the contract. APA hoped to set themselves up as a Telidon facility so that they would not have to rely on government grants in the future. They would have liked to be included on as many field trials as possible.

d. System Configuration

i) Hardware and Software:

The hardware consisted of an Apple II Plus with 64K memory, two floppy disk drives, an Apple Graphics tablet, a Norpak Mark IV (709) decoder, an Electrohome 19 inch RGB monitor, and a Hayes Smartmodem 1200.

The software included the Information Technology Group (ITG) page creation system (699) and Async's Electronic Page Manager (EPM).

ii) Personnel:

The project team included a project manager and a page creator. One person was to have received training for five days at Loyalist College, Belleville, Ontario and the other person was to have received three days training by Async Corp., Toronto.

e. Activities

The contract was dated July 12, 1982 and the project began almost immediately. The initial thrust was to spend the budget to establish the Telidon facility and to create an enduring database. One-half of the contract money went to ASYNC to develop the software. The Electronic Page Manager (EPM) was the software to handle the pages and to create the structure for accessing the pages which were created using the ITG page creation software.

How much?

The main menu page included the following five categories: 1) Recommended List for 1983 Models, 2) Fantastic Voyage Through a Car, 3) APA Bulletin Board (News Service), 4) Consumer Reports' Repair Charts, and 5) I Never Heard of the APA.

The Fantastic Voyage was a series of information pages to help acquaint the consumer with the major systems of an automobile. The Consumer Reports' Repair Charts were to include the typical information found in the magazine. The Charts required a good deal of innovation since there was a lot of information to be included on one page.

f. Usefulness of Telidon for Organization

Telidon was seen as an opportunity to increase consumer advocacy in the automotive field and to increase public awareness of the APA, possibly attracting many more memberships.

g. Limitations of Telidon System as Implemented

Several limitations were encountered. One of the major items in the contract was not able to be implemented because of limitations of the Vista field trial. The "I want to complain" section required an interactive facility whereby consumers could identify their automobile and the part of the automobile which was defective. Since there are over 400 models of cars and numerous parts, the numeric keypad which offered only 10 choices at a time was a considerable limitation. Alphanumeric keyboards would be required; however, even if they would have been available, the interactive software was not available on the Vista system to handle the input from consumers. Each week printouts would have been sent back to APA for manual sorting and editing which would have been a very cumbersome process for building the complaint file. One future possibility would be for APA to obtain a more powerful computer and to build their own interactive database, but that would be beyond their present fiscal capabilities. Vista was also seen as being very limited, "it's a lot of work to go through for only 400 families".

Another limitation was seen as the lack of standards for procedures such as headering, as well as equipment which was not compatible or was outdated, i.e., 699 standard. Also, the field trials were at different stages of implementation, which would make it difficult, if not impossible, to transport the database. Why?

The ITG page creation software presented many

limitations. Since it used computer memory very inefficiently, it only left about 8K with which to work. As a result of this limitation, one picture had to be spread over several pages which made editing very difficult. Also, text was treated like graphics hence editing was next to impossible unless using ASYNC'S EPM. Only 6 or 8 colors could be used with ITG and animation was extremely restricted. In using ITG one could get into dead ends or "traps" without warning until it was too late to recover. Another problem was that ITG could not make round circles for the frequency of repair charts so it had to be changed to squares. The high resolution graphics on the Apple were better than what was offered by ITG.

With the speed of transmission being only 1200 baud, animation took a long time and as a result the Fantastic Voyage section had to be re-thought and modified.

Another limitation for non-profit organizations was the storage cost for the database. For example, BCTel were charging $2.00 per page. "We would like to be on as many field trials as would have us but we can't afford to pay for storage." Also related to cost, the equipment was still very expensive for non-profit organizations.

Originally it had been intended to include a file on legal information related to automobiles. However, it was dropped because the nature of information was very technical and open to misinterpretation. This raised the question of what types of information were appropriate for an open database.

h. Problems Encountered During Implementation

One of the first problems encountered was that the Apple Graphics Tablet was no longer in production. Fortunately, they were able to locate one in Buffalo, New York. Another procurement problem was that the 1200 baud modem was not available until one month before the end of the contract.

The software was also late in delivery: 1) the Electronic Page Manager (EPM) was delivered in February, and 2) the file transfer software to send the pages via modem to Vista still was not available by the time of the second interview which was March 4, 1983. One of the holdups had been a difficulty in obtaining the headering information from Infomart who were administering the Vista field trial. ASYNC was working on another problem encountered in developing the file transfer: the Pascal Language disk would not boot with two communication cards in place.

i. Satisfaction with the Telidon System

i) Information Providers:

The project manager was still enthusiastic with the prospects of Telidon although somewhat frustrated with the problems of implementation and the limitations of the software.

ii) Users:

There were no users since the database was not implemented.

j. Future: Funding Prospects and Alternatives

The project monies, as originally intended, were spent primarily to develop a Telidon facility which could be used beyond the end of the contract time. One-half of the budget went toward software development, one-quarter to equipment and only one-quarter toward staff. The page creator would be continuing on a full time basis past the end of the contract.

It was hoped that the interactive facility could still be developed. APA wanted to use Vista as a showcase and then make their database available to other parts of the country. The Vista database had been examined and 13 access points to the system had been discovered which would use the cross-indexing to its fullest extent.

In respect to future funding, there were no definite prospects in sight.

k. Impact of PIP on Sponsoring Organization

APA had spent much more money out of their budget than expected. It was hoped that there would be an eventual payoff in new subscriptions for memberships. This involvement with PIP "would put us on the ground floor" and if Telidon applications using cable TV systems are developed, it could be very beneficial to the organization.

l. Concluding Comments: Evaluation

The objectives and activities of this organization were in keeping with the original PIP objectives. One of the contract objectives was not going to be implemented because the interactive software could not be developed within the

time frame of the contract. Many problems were encountered during the implementation and many limitations, particularly with the ITG page creation software, were found. Nevertheless, a relatively inexpensive Telidon page creation system had been developed and a beginning database was established which, if implemented on a field trial, could be very beneficial to the sponsoring organization and its members.

3. CAA HELP

The sponsor for this project was the Canadian Automobile Association. It was a federation of motor clubs, with more than 1.8 million members throughout Canada. According to the pamphlet called "CAA Today", the CAA was a service oriented, non-profit organization and was the Canadian member of a world-wide chain of motor clubs that spanned 100 countries and served a combined membership of over 45 million through approximately 3,000 offices.

a. Purpose of Sponsoring Organization

The 1981 Annual Report for CAA provided the following objectives:

- To promote, develop and implement programs and information relating to the rights, responsibilities and needs of the motorist as a consumer
- To further the interests of the motorists and the travelling public generally throughout Canada
- To maintain the rights and privileges of those who use motor vehicles
- To promote rational legislation governing the use of such vehicles
- To assist in and encourage the maintenance of good roads throughout Canada
- To advocate a reasonable regard on the part of motorists for the rights of others using the highway
- To undertake and promote publications in the interests of the Association
- To do all such things as are incidental to or otherwise germane to the attainment of the above objectives. (1981, p. 22)

b. Objectives as Stated in the Contract

The objectives as stated in the contract can be found on page 2 of the implementation schedule where it states:

> The Applicant shall, ... implement the ...

> project to be called "CAA HELP" which shall consist of approximately 575 pages published for the purpose of assisting consumers, particularly automobile, consumers, related to their automobile and automobile travel by providing information about car purchases, automobile safety, accessories, repairs, travel, government services, general related information. (1982, p. 2)

The pages were to include the following categories of information:

1. market values - new and used cars
2. vehicle ratings
3. repairs
4. complaints and advice
5. Used Car Buyer's Guide
6. mechanical advice
7. vehicle inspection service
8. tires
9. lien check - licensing
10. child restraints
11. recalls - defects
12. auto operating costs
13. fuel inquiries
14. car purchase transactions
15. fuel consumption
16. warrantees
17. trailer towing - recreation vehicles
18. oils and additives
19. insurance inquiries
20. crash test results
21. seat belts
22. car options
23. waxes and rustproofing
24. rental and leasing
25. batteries
26. government services
27. club services
28. general

c. Objectives as Identified During Interviews

The first objective was to develop a database so that it could be offered across Canada. It was to be a generic database.

The secondary objective was to experiment with Club to Club communications; however, the requested number of

terminals were not approved under the PIP contract and thus they were unable to pursue the aspect of office to office communications. This meant that the pages had to be created for the consumer instead of the counsellor who would then interpret the information for the consumer. This in turn meant the pages had to contain more general information than originally proposed. It also meant that the content was of less direct benefit to the CAA clubs. Another aspect to this secondary objective was that they hoped to eliminate much of the duplication of information libraries resident in Clubs across the country. "A fair amount of money is spent on periodicals and technical information that is duplicated." It was thought that this was the area that held the greatest short-term promise for Telidon.

d. System Configuration

i) Hardware and Software:

The hardware consisted of one Norpak IPS 2 (699) Page Creation Terminal on loan from DOC. The database was to be loaded onto the Vista field trial.

ii) Personnel:

The project manager was located at the CAA offices in Ottawa. The project operations were carried out by the Free Automotive Consumer and Technical Services (FACTS) Division, Toronto Club, Ontario Motor League at Toronto. The project team included a project director and a page creator. The page creator was a graphics artist who had extensive training. Two other persons (one was a backup) received training for five days each at Loyalist College, Belleville,

Ontario which was considered not to be enough training.

e. Activities

The contract was dated June 9, 1982. The focus of the database was toward the general public with some reference made to members of CAA. The attempt was to make the database national in scope so that if it was implemented in B.C., for example, it would require relatively little change. The main menu included the following categories:

1. Batteries
2. Buying a Vehicle
3. CAA
4. Complaint Handling
5. Fuel Information
6. Insurance
7. Leasing & Renting
8. Mobile Inspection
9. New Vehicle Ratings
10. Oils & Additives
11. OML Services
12. Recalls
13. Repairs
14. Rustproofing
15. Safety
16. Tires
17. Trailer Towing
18. Used Vehicle Ratings
19. Vehicle Operating Costs
20. Warranties
21. *How To Become a CAA Member

At the time of the second interview 571 pages had been put up on Vista which was only 4 pages below the target set in the contract.

f. Usefulness of Telidon for Organization

The CAA was building a technical library in respect to automobiles which was difficult to keep up to date. It was hoped that this information could be developed with Telidon and thus be accessible to other motor clubs and

associations. The project was centered at the Toronto Club because it was the only one that had a technical division. Telidon with its communication and updating capabilities appeared to fit nicely with this concept as indicated by the following examples. Automobile recalls needed to be updated every month. All clubs worked to a set of minimum standards for road and touring services. Marketing programs needed to be coordinated across the province.

g. Limitations of Telidon System as Implemented

One of the limitations noted was the low number of lines on a page. While the graphics on the IPS system were quite fast, they appeared much slower on the home based Vista terminals. Also on the Vista home terminals, the colors tended to be blurry and did not stand out as well, probably related to a lower resolution. They would like to have had the opportunity to work with the broader color spectrum of the 709 standard.

One of the major limitations was the relatively small target population involved with the Vista field trial. If Vista was merged with Teleguide, then the target population would be much more appropriate for CAA, it was believed.

Another limitation was the indexing system. For example, CAA did not appear on the main index page and it was difficult to find it on the Vista system. Two other drawbacks were noted: 1) no printer, and 2) no interactive feature which would allow the consumer to contact CAA. The Motor Clubs stock thousands of sheets for Triptiks. If low cost high speed printers were available, and consumers could

request information directly, a great deal of stock could be saved.

h. Problems Encountered During Implementation

The following comments speak for themselves. "This was one of the pities - the way the project was run was part of the problem - it started off on the wrong foot, there were so many delays. First we were lead to believe there would be 5 projects, then they needed a revised proposal. The contract came in late June but the page creation terminal and operator did not get started until August resulting in only 8 months to do the project."

During shipment the IPS was dropped and initially there was a great deal of down time until all of the repairs were completed. There were a number of technical problems or incompatabilities between the page creation terminal and the technical updates to the Vista system. These were things that the page creator was not supposed to do on the IPS but they were not explained and it eventually meant that 120 pages had to be re-done. "It was most frustrating since it was known, but we weren't informed." It would have been much easier if there had been a user terminal in the office so feedback could have been obtained on the work done.

i. Satisfaction with the Telidon System

i) Information Providers:

In the early stages of the project they were frustrated with a number of equipment breakdowns and with the incompatability between their page creation system and the updates with Vista. At the time of the second interview,

the project team members were disappointed that the project was not going to receive continuing support.

ii) Users:

Since the field trials had their own evaluators, users could not be interviewed for this evaluation. The project team was disappointed in the number of page accesses (hits). In the first two weeks there were about 700 hits but in the most recent two weeks there were only 160 to 200 hits.

j. Future: Funding Prospects and Alternatives

At a meeting in early February, 1983 of the CAA Telidon sub-committee which was responsible for the PIP project, the benefits were reviewed and the short term future was considered. The conclusions reached were the following: 1) a good job had been done in page creation, 2) DOC monies had been spent appropriately, 3) the audience in the Vista trial was very small and the reaction of the audience in terms of the number of hits and the number of persons contacting CAA in follow-up telephone calls were relatively few (CAA already had a 28% penetration in the Toronto market), and 4) consumer reaction to Telidon was not overwhelming. With this as a background the question was asked, "if we spent $50,000 would it be well spent. We thought not. The short term future was bleak, there was much that was yet to be done which would be pioneering at great expense with members money." It was decided not to continue the PIP project beyond March 31, 1983; however, the OML - Toronto Club was considering continuing the project until at least September, 1983.

As an alternative to a Telidon system, they were experimenting with a Communicating Word Processor that may be a more powerful medium for their application. They do not need graphics for many of their internal operations.

k. Impact of PIP on Sponsoring Organization

The major impact was that it allowed familiarization with the technology. It gave an opportunity to evaluate first hand the early consumer reaction, the time and the cost of videotex. It also gave a greater awareness of electronic technology. For example, it was realized that one of the drawbacks of a videotex system was the lack of a hard copy which would be highly desired for CAA's application.

l. Concluding Comments: Evaluation

The objectives and the activities of this project were in keeping with the original objectives of PIP. This was one of the few projects which actually met the objectives as stated in the contract. It was decided by CAA not to contribute funds to keep the project alive beyond March 31, 1983 since the costs were too great and the benefits too few at this point in the development of Telidon.

4. VANCOUVER'S ECONOMIC STRATEGY FOR THE 80'S

The sponsoring organization for this project was the Vancouver Economic Advisory Commission, City of Vancouver.

a. Purpose of Sponsoring Organization

In a report entitled "An Economic Strategy for Vancouver in the 1980s", prepared for the City of Vancouver, May 1982, the basis for the economic strategy was outlined in the following way:

> The chief aim of the VEAC economic strategy team has been to prepare a general framework for economic development in Vancouver over the next decade, incorporating as basic elements a set of perceived 'key economic activities' which would establish some directions for the nature of growth, broad objectives associated with these activities, and some strategic policy recommendations. If these recommendations receive broad community and political support, they may act as a basis for executive action. That is, they may serve as a framework for more detailed public policy initiatives, as well as a set of guidelines for business, industry and the community as a whole. (1982, p. 15)

It should be noted in the above statement that there was a concern for broad public support for the economic strategy. It was thought that Telidon would be of use in that regard.

The Vancouver Economic Advisory Commission (VEAC) was established for the purpose of advising City Council, City of Vancouver, on economic matters.

b. Objectives as Stated in the Contract

The general objectives were stated in the Implementation Schedule of the Contract as follows:

> The Applicant shall, ... implement the ... project to be called "Vancouver's Economic Strategy for the 80s" which shall consist of 160 - 250 pages published for the purpose of providing current information to the public concerning issues being addressed by City Council by providing information about proposed corporate strategy for Vancouver in the 1980s. (1982, p. 1)

The pages were to include: 1) Vancouver's Economic Strategy - an overview, 2) Details from Strategic Plan & Core Plan, 3) Polling of User's Opinion of Plan, 4) Feedback of User Commentaries, 5) Menus, Cross-References & Indexes, and 6) Graphics.

c. Objectives as Identified During Interviews

Originally, the Social Planning Department and VEAC were to be partners in the Telidon trial. The Social Planning Department was working on developing a "Core Plan" at the same time that VEAC was developing the economic strategy. Prior to the writing of the Contract, Social Planning decided not to be involved with the PIP project.

VEAC had three objectives: 1) to present their economic strategy to the Vancouver community, 2) to obtain feedback from the community, and 3) to learn about Telidon as a new technology.

d. System Configuration

i) Hardware and Software:

The page creation was done by a Videotex consulting firm, CVS-Canada Videotex Systems Ltd. This was the only PIP project where there was a division of responsibility between page creation and the information source. In all of

the other PIP projects the page creation was done at the site of the sponsoring organization.

The consultants used a Norpak IPS 2 (699) Page Creation Terminal. The consultants were responsible for the storage costs ($2.00 per month per page) and for loading the pages onto the BCTel field trial system.

An AEL Microtel User Terminal with keyboard was made available to the VEAC offices.

ii) **Personnel:**

The project team was comprised of two persons from the Vancouver Economic Advisory Commission who provided the information to the consultants. Provisions for training and page creation were not applicable for this project.

e. **Activities**

The contract was dated August 10, 1982. The pages were loaded onto BCTel's field trial as a complete package on January 31, 1983.

The main menu page was titled "The Poll" and presented the following:

> Select the heading you would like to start with and press the corresponding number.
>
> 1. Employment (jobs; skills)
> 2. Housing (B.C. Place; multi-family)
> 3. Transportation (A.L.R.T.; the Port)
> 4. Background (stats; graphs)

Once respondents selected one of the above areas of interest, they would be taken to a second level menu page and the Poll would continue, for example:

EMPLOYMENT

The economic activities which appear to have the best potential for employment growth are as follows - indicate which would be your first priority ..

SERVICE SECTOR

1. Corporate Headquarters
2. Business Services
3. Regional Offices
4. Tourist Facilities
5. Research & Development
6. Education & Training Services
7. Health Services

INDUSTRIAL SECTOR

8. High Technology Manufacturing
9. Port Related Industries

f. Usefulness of Telidon for Organization

Telidon was seen as a way of communicating the economic strategy to the Greater Vancouver Regional District. Originally they had considered a slide presentation and a series of brochures. However, by the time the Telidon presentation was ready, it was out of step with the planning and communication process. VEAC was in the final stages of writing the final report to City Council while the Poll which was to be used for obtaining a feedback from the Vancouver community still was not ready for implementation onto the field trial. "We would have dumped this (PIP project) a couple of months ago. It is more trouble than it is worth. The system is still cumbersome and the benefits are unproven."

g. Limitations of Telidon System as Implemented

One of the biggest limitations was that they could not get sufficient depth to either the presentation of the economic strategy, or the level of questioning for the poll in respect to the strategy. Frequently a paragraph would be needed to explain an idea before asking a person's priority. Often there were many subsets of questions which were difficult to present through Telidon. This was particularly true for the terminals that were placed in public areas where the span of attention was short. Also, the alphanumeric keypad was difficult to use and tended to "turn people off." In many cases the lettering on the keypad had worn off and thus it was hard to follow the instructions for its use.

Another major limitation for this application was the limited audience in that there were only about 200 terminals in this field trial. VEAC needed to communicate with a much broader segment of the community.

The feedback from the Poll was of limited value. It could not be considered accurate enough to be a plebiscite since it was not known who was answering the polls nor with what seriousness. It may have been "kids playing around" or it may have been well informed users. Each time one of the project staff demonstrated the database, their responses were included in the number of "Hits". At best the responses to the poll could be considered as an indication of interest. To go beyond, a much more sophisticated database management software system would have to be

developed.

h. Problems Encountered During Implementation

One of the main problems during the project was to distill a very sophisticated economic document down to about a grade 8 level that would fit on a Telidon page. It was felt very strongly that an editor, writer, interpretor, or translator was needed for this project. The providers of the information did not know the Telidon system, its capabilities and limitations. The page creators had difficulty interpreting the abstract material and editing it for Telidon. No money had been included in the budget for an editor or writer and as a result the VEAC staff had to spend a great deal of time on this process which was neither intended nor desired.

Another part of this problem was a difference in perspective between the page creators and VEAC. The page creators wanted to make the presentation interesting and perhaps controversial. VEAC, on the other hand, as an Advisory Commission needed to be non-partisan. VEAC was interested in presenting information and obtaining feedback. Telidon was found to be primarily a one-way communication with little in the way of feedback.

Another problem was related to storage costs. In order to reduce storage costs the pages were time sequenced with the result that editing was very difficult because if you wanted to go back to a previous page you had to wait until the end of the sequence.

It was believed that BCTel was an antiquated system.

In one instance several pages were lost from the system and respondents reached a dead end. It took several days for it to be fixed. The telephone circuits were often a source of error.

i. Satisfaction with the Telidon System

i) Information Providers:

They were pleased with the system once implemented but were disappointed with the results of the Poll, the length of time required to develop the database and the amount of their time used.

ii) Users:

There were no users available to this evaluation because it was part of a field trial.

It was reported that people who had been into the VEAC offices found the system interesting and informative. In the first five days after the project was implemented 1825 pages were accessed. The introductory menu page was accessed 304 times. In the next seven days 1639 pages were accessed including the main menu page 268 times.

It was also reported that an architect who was visiting from out of town went through the database in about one-half an hour. He felt he got a good briefing on the City and its economics and was amazed at the amount of information given in such a short time.

j. Future: Funding Prospects and Alternatives

There were no plans at the time of the second visit to continue development of the database. It would be recommended to City Council that the database be kept on the

field trial for a few more months with a reduction in the number of pages. The reduction was partly to reduce cost and partly because people would be led astray if the Poll continued.

With the present fiscal restraints, and with the limited number of users, it was believed uneconomical to continue development at that time.

The page creator, the consultant, believed there could be a number of future applications such as communicating with other cities in respect to Vancouver's economic future. Possibly the Board of Trade could use some of the information on the database to present an aggressive marketing stance. It was suggested that the database be made available to VISTA for viewers in Ontario and Quebec.

Alternatives to Telidon would be the traditional newspapers, brochures, press conferences and possibly some audio-visual equipment.

k. Impact of PIP on Sponsoring Organization

With the publicity surrounding the trial, there was an increase in public awareness of economic issues. It raised the awareness of the project staff of the extant technology to the extent that one of them was going to take a computer course.

On the negative side, it was a painful process that took a long time both for the consultant, who went a long way over his budget, and the VEAC Secretariat staff, who spent many extra evenings trying to distill and condense the strategy.

1. Concluding Comments: Evaluation

The original objectives were in keeping with the overall PIP objectives as were the activities. This project was one of the few that met the contractural objectives to the extent that the completed database was implemented by January 31, 1983.

It was the smallest contract (less than half the cost of any other project) which may have been one of the contributing factors to the frustration involved. The separation between the page creation and the information source proved to be a difficult problem, especially given the conceptual nature of the information.

E. FINDINGS: CONCLUDING NOTES

The PIP projects have been described in respect to the purpose of their sponsoring organizations, their objectives, system configuration, and activities. The major themes relating to their perceptions of Telidon's usefulness, limitations, information providers and users satisfaction, future funding prospects or alternatives, and the impact on the sponsoring organization have been addressed.

At the time of the second on-site interview, only two of the nine projects had their complete database implemented on a field trial. Both of those had chosen not to continue development of the database beyond the end of the contract period although they hoped to continue updating the package and keep it on the field trial for another 6 months.

Two other projects had part of their database on a field trial, and the other five were either waiting for hardware, software or both. All of these seven projects were sufficiently convinced of the usefulness of Telidon for their sponsoring organization that they wished to continue with the project. None of them had definite prospects for future funding although most had made some attempts to obtain funds. At least four of the projects would be continued "somehow" by their sponsoring organization although at a much decreased level of activity unless further funding was procured.

Chapter IV

Conclusion

O'Toole's Commentary (from Murphy's Law I):
Murphy was an optimist.
(Bloch, 1982b, p. 10)

In this chapter a summary of the PIP projects and the main themes will be reviewed. The programme will be reviewed in respect to the objectives of PIP as originally presented and as reflected in the Request For Proposal (RFP).

The public announcement of Telidon occurred in August, 1978. Shortly thereafter, on April 2, 1979, the Minister of Communications, Government of Canada announced a four year Telidon programme.

Several issues were identified by the Social Policy Branch. Two of those issues were access and diversity. It was believed that if the not-for-profit sector was to be involved in this new Canadian invention, the government would have to provide some funding. On February 6, 1981, $27.5 million was allocated as a stimulus for the development of Telidon. Two programmes were developed: 1) the Industry Investment Stimulation Programme (IISP) which was a cost shared programme with industry, and 2) the Public Initiatives Programme (PIP) which was for the disadvantaged.

Five categories were designated for funding: 1) Inuit, 2) Women, 3) Natives, 4) Disabled and 5) Consumers.

PIP was announced and a request for proposals was issued on November 12, 1981. The deadline date for receipt of proposals was December 22, 1981. Thirty proposals were received and on April 30, 1982 ten projects and two feasibility studies were announced. The Inuit faced a number of problems and it was decided to carry out feasibility studies as a starting point for that category. Funding was provided for two projects for each of Women, Natives and Disabled. Four projects for Consumer groups were also approved. The projects were geographically dispersed with projects being in five Provinces and one Territory. The projects began during the summer of 1982 and were to be completed by March 31, 1983.

This evaluation deals with nine of the ten PIP projects. Agora at Montreal had a contract which was spread over 1 1/2 years and was to be evaluated as part of the larger field trial. The primary focus of this evaluation was to determine the usefulness of Telidon in the not-for-profit segment. The method of the evaluation was to an extent pre-determined by the fact that its termination date coincided with the termination date of the PIP projects. A formative evaluation using a key informant approach with a structure based on systems analysis was considered most appropriate.

This evaluation was not concerned with the day-to-day

management of each project since that was the function of the DOC personnel. Nor was this evaluation involved with the self-reporting mechanism embodied within the requirements of each project. The role of this evaluator was to provide a perspective from someone who was not directly involved in either the Government of Canada or any of the PIP projects.

Two on-site visits were held with each project. The first visit was held between January 12 - 29, 1983 and the second round started February 22 and was completed March 10, 1983. The following section provides a brief overview of each project.

A. WOMEN

1. THE COMMUNITY TELIDON NETWORK OF THE PACIFIC

This project, which was sponsored by Greater Vancouver Information and Referral Service, focused on the provision of information relevant to women.

Prior to receiving the PIP grant GVIRS had wrestled with the problem of keeping up-to-date information on the numerous and various community organizations in the City of Vancouver and its surrounding suburbs. GVIRS had previously purchased a microcomputer and thus had some understanding of information technology. Telidon provided an opportunity to broaden the database as well as to develop a community approach to information provision and information sharing. The approach taken was to encourage community groups which were involved with women's issues to learn how to create their own pages of information. Telidon was seen as

offering an attractive way of providing information for and by "amateurs" and as such was seen as appropriate for the use of community groups.

Several innovations were developed for CTNP. Programming was done for the microcomputer both to establish the database and to provide for keyword access versus the more cumbersome tree structure. This project will also be demonstrating a network of APPLE computers possibly using the Telidon board made by Norpak for distribution by APPLE. (By the second interview one Telidon board had arrived but the APPLE IIe's had not.) Another interesting possibility was to include obtaining a gateway to the B.C. Tel field trial.

This project was seen as having many potential benefits, not only as a demonstration of Telidon, but also to society in general and to women in particular.

2. <u>ONLINE / SUR LE FIL</u>

This project took place at Moncton and was sponsored by NB's Advisory Council on the Status of Women. It set out to provide a general information and referral index for women, an urgent action and current events file, a who's who of persons working on women's issues, and information on the Advisory Council itself. It was called "ONLINE / SUR LE FIL" to signify immediate and current information for women's groups throughout the province using N.B. Tel's MERCURY field trial system. It was the only PIP fully bilingual database.

This project appears to have met its primary

objectives.

B. NATIVES

1. NORTHERN NATIVE BROADCASTING TELIDON PROJECT

This project, centred in Whitehorse, was an attempt to develop a database focused on native concerns for a broadly dispersed, sparse population. Existing communication was often based on word of mouth transactions with the expected delays and inconsistencies of that medium. This project promises a unique application which could increase the flow to outlying areas of the Yukon of accurate up-to-date information which, because of the nature of its local content, was not provided by media beamed in from the "South". For example, travel in the North is heavily dependent on small airlines so that information on flight schedules was important. Fur prices which change frequently for different buyers was important in order to get the best prices for trappers. Knowledge of the fluctuating demand for products like the Yukon Parka which were hand-made by natives would be helpful in scheduling production.

The components of the system consisted of a GC1000 Page Creation Terminal, a Microtel VTX202 receiver terminal and 5 APPLE microcomputers plus some newly developed software from FORMIC. Neither the computers, nor the software had arrived by the time of the second visit which was late February.

It was believed that the future of Telidon in this project was dependent, at least in part, on commercial interests such as the selling of advertizing space. This project has many possibilities for helping Natives help

themselves in a community development sense.

2. F.S.I.N. TELIDON

This project, based in Saskatoon, was very promising at the outset; however, its full potential was yet to be realized. It was intended to improve the communication of the central office of the FSIN with the Districts located throughout the province and to provide pertinent educational material.

Several minor setbacks occurred including the IPS being out of service for one month, and having the first manager and one of the original page creators leave the project in the early stages. Two major problems developed: 1) a shrinkage of funds required a major reorganization of the FSIN, and 2) the SaskTel Pathfinder field trial was delayed in its implementation of the second stage. Hence, they were not going to be ready for the PIP data until March 31, 1983 which was beyond the end of the PIP contract termination date. This effectively meant that there would be no field trial for this database. At the time of the second interview, an attempt was being made to find a home for the project and to establish a field trial. It was hoped that the FSIN Cultural College would sponsor the continuation of the project especially since it was involved with distance education for which Telidon Assisted Computer Aided Instruction could be used. An educational focus was thought to be appropriate for funding agencies and for the FSIN particularly as it related to upgrading of English and mathematics for the grade 8 to 12 levels and to the cultural

heritage of the native population. It is hoped that a way will be found for at least a full field trial of the database which may then make it possible for future development and continuance.

C. DISABLED

1. INFODATA

Telidon was seen as an extension to the world of the physically handicapped, i.e., the Telidon terminal provided a method of communication for many handicapped persons which was not formerly available. This project was also seen as a training facility and an employment opportunity for the handicapped. For example, all of the persons who were hired by the PIP project were handicapped. One of the page creators used a mouth stick and a modified shift key to push the keys on the APPLE microcomputer.

The project envisioned the development of a central database which initially could be accessed by five nodes, with possible future expansion throughout the province. At the time of the second visit the FORMIC Telidon system had only recently been received; however, the editing features were not going to be available for about another thirty-five days. Two of the 1200 baud modems still had not arrived, nor had the other five APPLE microcomputers been obtained. Nonetheless, about 1000 pages had been created with an IPS and two APPLEs.

2. AGORA

Montreal was the site of one of the largest PIP projects. It was unique in that it was a French only database and that it was centred in a laboratory in a Department of Communication (Universite du Quebec). Its focus was on the handicapped with a community animation approach. Community handicapped groups were to be responsible for developing a ten page electronic newspaper every two weeks. They were also developing a file on public access for the handicapped for prominent buildings in Montreal. AGORA was a very promising concept with an emphasis on developing content which will be broadcast using a "hybrid" telephone and cable television delivery system.

D. CONSUMERS

1. FOOD AND NUTRITION INFORMATION ON TELIDON

This project was sponsored by Ryerson Polytechnical Institute, Toronto. VISTA was the delivery system for this project. It had two major components, both of which related to the provision of accurate information on nutrition as opposed to the great deal of information that could be described as being based on folklore or possibly even quackery. One component included the development of games which could act as an enticement for persons, both children and adults hopefully, to view information on nutrition. One game which followed the base idea of "hangman" was changed to "SPACE-BYTE" where once the correct answer was obtained or presented, the player could choose to find out more about that particular food or food group. The second component

was the transferring to the VISTA trial from a data bank resident on Ryerson's DEC-10 of approximately 2000 references to free phamphlets which could be obtained by consumers. The transferring of this data was to be done so that it fitted a Telidon format. The software to accomplish the transferral was in the final, hopefully, testing phase and was being done by ASYNC Corp.

At the time of this interview only a very limited amount of feedback from VISTA on the number of "hits" on the first game was available. It was still too early to gauge user response although the project group was encouraged by the response. The project group hoped to have the project continue and would like to see it be carried by a trial with a wider audience. Since information on nutrition is continually being developed and improved through the food and other related sciences, the database would decay without attention and updating. Future funding was not assured although it was hoped that Ryerson with its commitment to computer based information may provide some support.

2. AUTOMOBILE PROTECTION

Ottawa was the site of the APA, which was a consumer association. It had developed a base of information which included a recommended list of automobiles for 1983 models, some consumer education on the functioning of the major sub-systems of the automobile, a news service relating to important events such as repair recalls, frequency of repair charts and some promotional material on the APA.

The approach taken was to use the PIP grant to set up a

Telidon system which could be used well into the future, or at least until obsolesence overcame the purchased technology. It was the only PIP project to use the Information Technology Group (ITG) Telidon page creation system which unfortunately was found to have many limitations. An important innovation was the development of the Electronic Page Manager (EPM) by ASYNC Corp. The database was in the process of being put up on the VISTA field trial with software also developed by ASYNC Corp. Unfortunately one part of the project could not be accomplished which was the creation of the interactive capability to allow consumers to record complaints about their automobiles and to develop a continuing file for ongoing use by consumers. The VISTA trial was not set up to allow for this objective to be met.

It appeared that this project would continue for some time; however, the time frame did not include feedback from users of the data bank which will be very important for this project and the APA.

3. <u>CAA HELP</u>

This project also used the VISTA field trial as its delivery system. The CAA has decided not to continue the project beyond the time that it becomes outdated. The Association believes that it requires a much larger audience than that offered by the present VISTA system for Telidon to be cost effective for their Association. It had been hoped that Telidon could have been used to provide up-to-date information on the great many facts related to automobile

ownership and that this information could be shared by the other Provincial Associations and Motor Clubs. At this point the network is not functional within their collective budgets. As an alternative the Association will be considering a computer based word processing system.

2. VANCOUVER'S ECONOMIC STRATEGY FOR THE 80's

A report entitled, "An Economic Strategy for Vancouver in the 1980's" was published by the Vancouver Economic Advisory Commission in May 1982. It was hoped that this information could be shared with the public and that an opinion poll could collect data on the public's response to the specified options. Along with the opinion poll another innovation was the use of an outside consulting firm, "Canada Videotex Systems" to create the pages which were placed on B.C. Tel's field trial.

Both the project group and the consultants found they expended far more time and energy than expected. It was thought that a writer or editor should have been included in the project to help with the translation of the conceptual material in the economic report. It needed to be adapted for viewing by the public using the limited amount of space available on a Telidon page. Another problem encountered was related to the experience with the opinion poll. It could not be ascertained from the information provided by the field trial who was answering the poll questions. Hence, it was not known if the respondents were children, adults, serious, frivolous, residents or non-residents. In essence, a public poll could only be considered as a rough

measure of public interest or as an interactive tool to help engage respondents in the task of obtaining information.

While the project can be considered a success from the standpoint of having created the expected number of pages and having them included in the field trial, the project group believed that the medium in its present state of development was too limited for the type of conceptual material they were providing.

Objectives for the Public Initiatives Programme

The following discussion returns to the original objectives of the Public Initiatives Programme (PIP) and to the ideas embodied in the Request For Proposal (RFP).

1. To contribute to page creation by generating databases appropriate to the needs of consumers, Inuit, Natives, disabled and women.

With the exception of the Inuit, this objective was met to the extent that beginning databases were developed in all nine of the PIP projects. Two of the nine projects had decided not to continue development of the database with the expectation that they would eventually decay and be removed from the field trial systems. These same two projects were the only projects to have completed the database development to the level specified in the contract by the time of the second on-site visit. Two other projects had some of their database implemented on a field trial, and the other five were still waiting for either hardware or software in order to try out their database.

XB.

The question may well be asked, to what extent have databases been generated? Most of the projects had fewer than 1,000 pages. One project manager believed that the database would not be viable until it included 10,000 pages. Agora had reserved space for 20,000 pages. The one field trial that yielded feedback from users indicated a very strong disappointment in the limited development of the database, "it was an insult to the intelligence" of the serious user.

It was true that beginning databases had been generated, but the longer term viability was open to question especially since five of the projects did not have any user feedback. Furthermore, none of the projects had definite future funding arranged although four projects were to continue "somehow" even though the page creation activity was to be at a reduced level. One project was going to be able to keep one of their project staff for at least six months and another project was going to continue to employ a page creator from their operating budget. Two other projects had interim funding from employment grants. The suspicion that the not-for-profit sector would have difficulty obtaining funding for Telidon was well founded. The Government of Canada should be congratulated for its proactive stance. It is recommended that further funding be made available to insure the viability of the "beginning" databases at the very least until field trials have been held and user feedback has been obtained.

2. To support the page-creation industry by

encouraging commercial and non-profit organizations to offer page-creation services. (Approx. 1/3 of activity to be dedicated to this end.)

One project used an outside consultant to do the page creation. In that particular project there was a difficulty in communicating the needs of the information source, and the requirements of the Telidon system. It was believed by the project team that an editor was required to help bridge that gap. This experience suggests that if an information source intends to make use of a page creation service, the communication needs must be taken into account. At the time of the second visit none of the non-profit organizations were offering page creation services on a commercial basis; however, three projects had given some thought to that possibility as a way of helping to support their database.

3. To encourage the growth of Telidon and electronic publishing by training people within the selected groups in Telidon applications and page-creation.

With the exception of the project which used an outside page creation service, and a project which had page creators who were already trained from a previous field trial, all of the projects had at least two persons who had received five days training in page creation. In the nine projects at least twenty-nine persons had obtained experience in page creation.

4. To encourage the broad utilisation of Telidon by creating examples of database style and structure.

This objective was met beyond the expectations

expressed in the RFP. None of the nine databases were the same. All of them offered a different style which was quite delightful. Also, several different structures had been developed. CTNP developed their own software for keyword access. APA had the Electronic Page Manager (EPM) developed for them by ASYNC. Ryerson had software developed, again by ASYNC, for the transfer of files from a DEC-10 to a microcomputer (APPLE) and from there to the Vista field trial. The Northern Native Broadcasting Telidon Project (NNBTP), and INFODATA were both using software developed by FORMIC.

5. To demonstrate the practical capabilities of Telidon.

All of the nine projects had developed a beginning database which demonstrated the practical capabilities of Telidon; however, the two projects which had decided not to continue developing their database required a mass audience which was not available through their respective field trials.

6. To develop demonstrations of innovative use of existing technology as related to non-profit environments.

Several projects were using existing technology in innovative ways. APPLE microcomputers were being used as host computers for two systems, and as communication links or page creation systems in three other projects. An Alpha Micro (PDP-11) was used as a host in another project. Fixed Disks, 1200 baud modems, Telidon boards for the APPLE computer made by Norpak, and various other communication

devices and software including the ITG Page Creation System, FORMIC, and ASYNC were being used.

7. To generate feedback to determine practical enhancements of the system.

Feedback was obtained from information providers and a number of limitations to the systems as implemented have been described. A number of enhancements are required to overcome those limitations. Unfortunately, only three users were available to this evaluation. It is recommended that further evaluation be done when more users are available to provide feedback.

8. To distribute projects across Canada both geographically and linguistically.

Geographically, the projects were distributed from East to West and from North to South in five Provinces and one Territory. Linguistically, there were databases in English, French and one fully bilingual and one partially bilingual. pp?

Request For Proposal

In the Request For Proposal it was stated that DOC could not "fund more than one major project for each of the designated groups" and that no more than one proposal would be "supported in any given geographic area". It was originally understood that only five projects would be funded. Several project teams expressed their disappointment with the reduction in funding that was the result of expanding the number to ten projects. In fact, it was reported that one of the projects initially refused to

accept a contract because the monies involved were not enough to "do the job that needed to be done."

A Concluding Note

In each of the projects, the activities were in keeping with the objectives as identified in the interviews, as stated in the contracts, with the purposes of the sponsoring organizations, and with the original PIP objectives. This would indicate that the original selection and planning processes were carried out in accordance with the PIP objectives.

The major focus was to determine the usefulness of Telidon for the not-for-profit sector. To this end, all of the projects demonstrated a useful application for Telidon. However, two of the projects that required a mass audience, as opposed to closed user groups, decided not to continue the development of their database.

The major question relates to the viability of the small databases. All of the projects will require further development of the content and updating of the existing content, if the projects are to become viable. Considering the under-funding as indicated in the RFP, the unfinished field trials, and the nature of the content, it is expected that future Government funding will be required for the remaining PIP projects and the not-for-profit sector. It would be very unfortunate if these excellent beginnings were lost.

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