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**A CRITICAL REVIEW OF "USER NEEDS ANALYSIS"
FOR THE NATIONAL MUSEUM OF MAN
STAGE I - PUBLIC NEEDS"**

Prepared for:
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and
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Museum of Man Public Access to Information System
Contract File No. 06ST.36100-4-4174
Contract Serial No. OST84-00370

November 30, 1984

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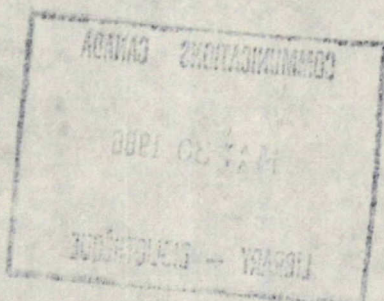
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EXECUTIVE SUMMARY

This report is submitted for Task One of the project *Museum of Man Public Access to Information System - Visitor Perception of Needs and Prototype Assessment Study* which Behavioural Team is currently undertaking for the Department of Communications. The present report presents a critical review of a museum visitors' needs/wants assessment, *User Needs Analysis for the National Museum of Man, Report on Stage 1 - Public Needs*, prepared by InterFace Consulting (IF) for the National Museum of Man.

The purpose of the IF Study was to analyze the information requirements of museum clients in order to develop functional requirements for the Museum's information/communications systems. The IF Study resulted in *some* information about the information needs of the Museum's clients. But there are a number of deficiencies in the IF Report which, if not taken into account, will *hamper* the development of effective functional requirements. At the root of the problem is the three-fold classification of the Museum's clients.

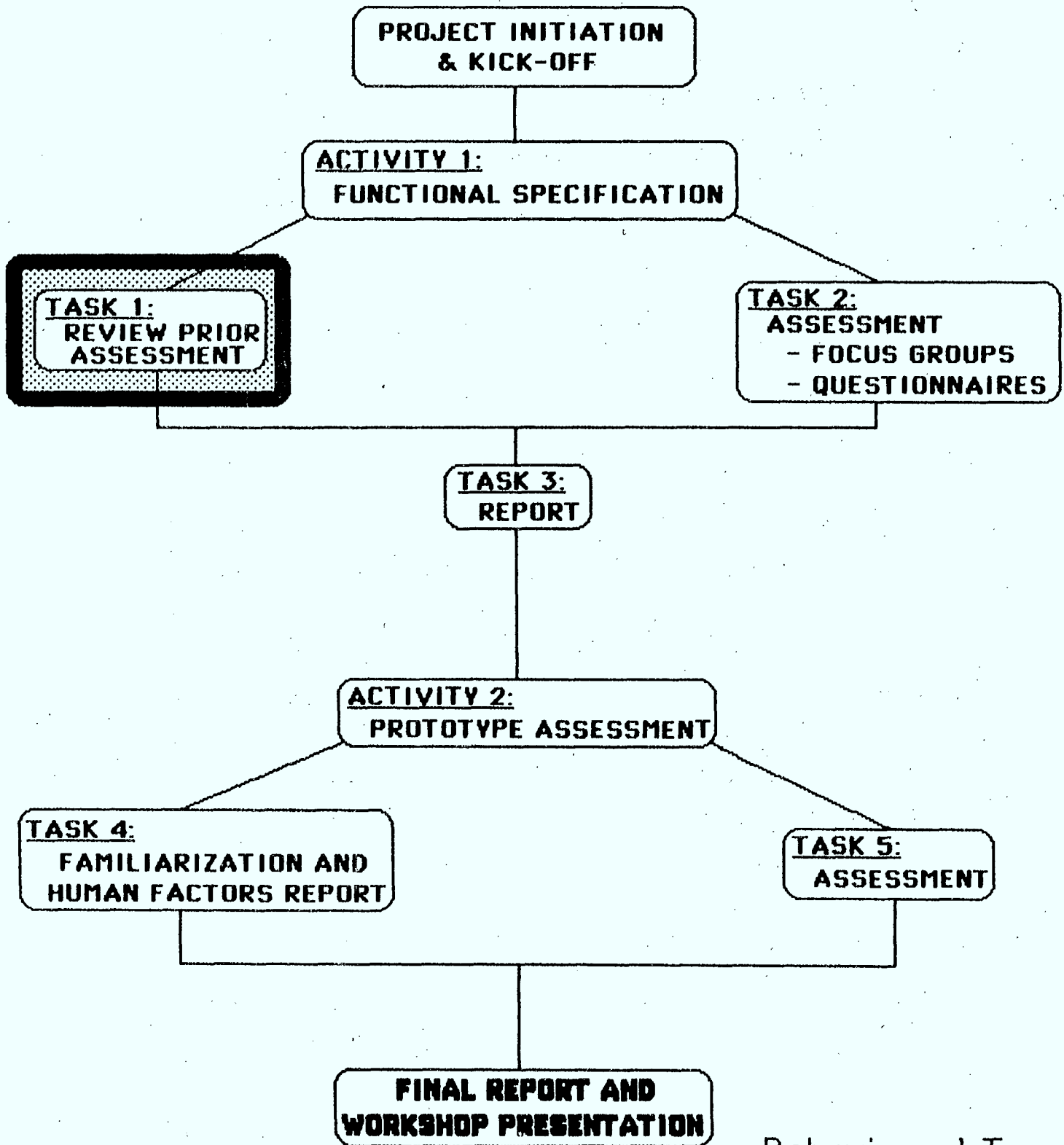
Two of the three main client groups are distinguished by their so-called "objective" in seeking information; that is, whether the information is for the client's own use or whether the client's objective is to communicate the information to others. The reason for this classification is the belief that the Museum will take different approaches to meeting these different objectives. Illogically, the third or "special" group is classified not by objective because it appears to the IF authors that the Museum will take a third approach to meeting the information needs of this third group.

This classification system hinders the development of functional requirements because it obfuscates data concerning two major criteria for establishing functional specifications: information needs and context.

Finally, the IF Consultants gathered data about the information needs about the Museum's clients from the point of view of the Museum's staff, (and filtered through their eyes) rather than from the client's themselves. This is a major deficiency of the study but one which will be remedied in the current study.

Behavioural Team

Museum / Telidon



A CRITICAL REVIEW OF "USER NEEDS ANALYSIS FOR THE NATIONAL MUSEUM OF MAN STAGE I - PUBLIC NEEDS"

INTRODUCTION

This report has been prepared for the project **Museum of Man Public Access to Information System - Visitor Perception of Needs and Prototype Assessment Study**. The purpose of this project is three-fold:

§ to develop state-of-the-art information concepts (using Telidon technology) which will enhance the quality of the museum experience for the visitor,

§ to help develop an information technology which will serve as a spring board for a viable commercial industry in the field of museum information technology,

§ to perform an assessment of museum visitors needs/desires for information technologies in a museum environment and to perform a preliminary assessment of a prototype Telidon Visitor Information Technology system that will be developed in the context of the new headquarters for the **Museum of Man**.

Task 1 of this project was defined as follows:

§ familiarization with the results of a prior museum visitors needs/wants assessment as seen through the eyes of museum staff, an identification of any deficiencies in the results of the study and the development of an effective strategy in conjunction with the Scientific Authority to remedy as many of these deficiencies as possible.

The purpose of this report is to present a critical review of the prior museum visitors needs/wants assessment, *User Needs Analysis for the National Museum of Man, Report on Stage I - Public Needs* ("IF Report"). This will be accomplished in three parts: 1) summary of the

IF Report, 2) deficiencies of the study, and 3) conclusion and recommendations.

SUMMARY of the IF REPORT

Purpose

The mandate for the IF Study was specified as follows:

"to analyze the information requirements of the staff and clients of the Museum. The study will result in an information requirements statement, and functional requirements statement for future information and communications systems."

The work was divided into three stages:

- Stage 1 - Public Needs,
- Stage 2 - Staff Needs, and
- Stage 3 - Functional Requirements.

The objectives for Stage 1, the stage with which this critique is concerned, were as follows:

- S refine the Museum's profiles of its client population, and
- S to develop a statement of information requirements of the Museum's various client populations.

Method

The methodology for Stage 1 of the IF Study can be summarized as follows:

1. Familiarization Sessions to introduce project and objectives to Museum staff, and in particular how they could participate in the study,
2. Small Group Discussion Sessions and Follow-up Sessions to

identify issues,

3. Results of Sessions used to develop the Questionnaire,
4. Questionnaires administered in individual groups and small group sessions, and
5. Analysis and Report.

A total of 76 persons were interviewed -- 56 from the **Museum of Man**, and a total of 20 other personnel of the **National Museums Corporation**. Questionnaires were returned by 70 respondents -- 47 from the **Museum of Man**, and a total of 23 from other personnel of the **National Museums Corporation**.

Results of the sessions and the questionnaires were used to identify the client groups of the Museum. An original list of 5 client groups was gradually expanded and refined to 28 client groups. However, because it was felt that a list of 28 client groups would be unworkable for functional requirements, the 28 groups were incorporated into 13 subheadings which were grouped into 3 major categories:

1. Direct Client Groups
 - a. General Public
 - b. Teachers, School Groups, and Individual Students
 - c. Specialists and Researchers
 - d. Native People
 - e. Ethnic Groups
2. Intermediary Client Groups
 - a. Volunteers
 - b. Media
 - c. Other Museums
 - d. Embassies
3. Special or Other Client Groups
 - a. Contributors, and Donors
 - b. VIPs
 - c. Government Agencies

d. Miscellaneous (Manufacturers and Suppliers; Job Applicants; Libraries)

"The primary distinction exists between groups on the basis of their objective in seeking information. On the one hand, there are individuals seeking information for their own use (e.g. specialists or general public, etc.), on the other, those whose objective is to communicate the information to others (e.g. media, other museums). The systems and procedures required by the Museum to meet these needs are therefore believed to differ in design and operation. A third group, special or other client groups, appear to differ sufficiently in terms of approaches the Museum will take to meet their needs to warrant their placement in a third group. This classification made it possible to reduce the number of client groups to be considered for functional requirements (IF Report, p.10-11)."

Respondents were asked to identify the 3 client groups most significant and central to their work in order of priority. Then, respondents were asked about specific information needs for each group.

Each of the client groups is described in the report, including the following:

S the number of employees who considered the client group central to their work,

S the frequency of queries according to types of information requested,

S illustrations of request -- surprising, interesting, unclear, frustrating or demanding,

S relevant comments and observations, including details of subgroups, if any, and

S comparison with non-Museum of Man respondents.

Results

Major claimed conclusions of the IF Study are as follows:

- the general public were most frequently identified as having a great impact on the work of museum staff, followed by researchers, individuals from other museums, and governments,
- all remaining client groups were rarely identified,
- after identifying the group with the greatest impact, respondents had difficulty identifying a second and third client group,
- most of the Museum's employees have "little or no contact with the public,"
- the general public tend to ask for general museum-related information, and, in the summer, most frequently for general tourist information, followed by information about the collection; the latter are not handled adequately in the opinion of respondents,
- traditional information about the collection (eg. date and size) does not necessarily answer what the public wants to know (eg. "context" questions),
- when the public desires additional information about the collection in or near the exhibits, security guards are frequently approached; the public rarely makes use of the telephone available for contacting curatorial staff and the information request cards, both of which are provided at the information desk,
- teachers most frequently inquire about educational programming by telephone,
- school groups ask general museum-related questions and question about the artifacts,

students, researchers and specialists ask similar questions -- requests for additional information about artifacts and other museological information such as exhibit design procedures,

volunteers frequently request information related to artifacts and exhibits and general museum-related information,

the media usually want general museum information for the general public, but, unlike the general public the media need to be notified about museum exhibits, etc. well in advance of opening dates,

staff find it frustrating to respond to inquiries by the media and special client groups when these inquiries are based on little background information,

information needs about the collection are often not satisfied because of a lack of photographic documentation or cataloguing,

staff perceive that their personal knowledge, expertise and opinions allow them to respond satisfactorily to questions,

specialists usually enjoy responding to queries from other professionals which necessitate further research,

queries occur at the museum site and over the telephone,

sometimes staff cannot answer questions because there are no definitive answers (eg. lack of firm schedules, policy, and procedures),

there are fewer documents, publications, etc. produced in French than in English,

staff feel that the usual advertizing and dissemination mechanisms for regular exhibits are ineffective,

routine museum-related information needs are met fairly satisfactorily but their repetitiveness is boring to employees; interpretation questions are much more interesting,

□ queries directed to specialists from external professionals are valued because the discussion usually provides new information.

DEFICIENCIES

The IF Report includes a section on "Methodological Issues," which is bound separately. It discusses the strengths and weaknesses of the methodology of the IF Study. This section our critique will discuss these as well as others not noted by the IF authors.

The section on "Methodological Issues" (esp. pp. 3-5) in the IF Report identifies three main methodological problems with the "classical approach" to needs analysis. Each of these will be cited and discussed separately:

1. The actual users of the system do not have an opportunity to participate, hence systems may not meet their specific needs -- the system meets only needs perceived by management.

Two groups of users who did not participate in the Study are identified in the IF Report: non-management museum personnel [it appears that they did in fact participate but were in the minority] and museum visitors. Therefore, the findings of the IF Study do not directly reflect the needs of these two groups. For example, management (whose opinions are reflected in the Study) might perceive that visitors want information about *where* and *when* artifacts were made. In actual fact, visitors frequently ask nearby security guards for additional information about the original *context* of the artifacts. Moreover, the literature suggests that many visitors (who do not approach security guards) also want *other* information of a totally different kind. Such problems frequently result when user-needs analyses do not take the needs of the actual users directly into account.

It is no exaggeration to say that the entire validity of a user-needs analysis is questionable when the actual users do not participate in the study. As a wise psychologist once said, "If you want to know what people

want, just ask *them*.

Does this mean that the results of the IF Study are valueless? Of course not. First, results of non-Museum of Man respondents confirmed the results collected from **Museum of Man** staff. Second, despite this major deficiency of the Study, many valuable issues surfaced (eg. there are different client groups with different needs, etc.). Third, informal evaluation studies -- studies which gather data from the viewpoint of experts or the professionals involved, rather than the clients -- often *complement* formal evaluation studies which gather data directly from the clients themselves. The IF Study is valuable, therefore, but its value is limited. A formal evaluation study which approaches client groups directly is still necessary for detailing an accurate profile of museum visitor needs and wants for information.

2. The respondents may not be able to supply the necessary information on what they need.

Respondents in a user-needs analysis cannot be expected to know what the latest advances are in museology and technology, nor can they even be expected to have ever contemplated the idea that advances are being made in these fields which could greatly affect the experience of a museum visit. For example, visitors cannot be expected to suggest new approaches to exhibitions communications or the interpretation of collections. Moreover, visitors cannot be expected to know that there *are* individuals grappling with such problems and, even more important, that the quality of the museum experience could be enhanced.

3. The needs are not considered in the context in which the information will be used to achieve the organizational performance and objectives.

User needs must be considered with respect to the aims and objectives of the institution. Interestingly enough, the IF Study includes no reference whatsoever to the major aims and objectives of the **National Museum of Man** or the **National Museums Corporation**. This is something of an oversight given the importance which is placed on the National Museums as communications and educational facilities.

In addition to these three main problems, a number of other weaknesses of the study are discussed in (but scattered throughout) the IF Report, including the companion methodological section. These are as follows:

4. Many respondents had very limited contact or no contact with the Museum's client groups.

This deficiency should really come as no surprise. Historically, museum staff who are in regular contact with the public are in the minority. That's lucky, because otherwise operations would be innacceptably costly! They include, for example, security guards, volunteers, and cafeteria and gift shop personnel. This means that those involved in planning and developing public programmes often have a real difficulty "empathizing" with the visiting public.

One of the reasons formal evaluation procedures which collect data directly from the public are being increasingly used in museum design processes is to bring the interests of the client to the attention of those involved in planning and developing public programmes. Moreover, museums are also now finding that if clients are approached at the earliest stage of the planning process, from the outset objectives can be defined which meet the needs and interests of the visitors themselves. The programme then has a greater chance of being successful or "effective."

5. Employees had difficulty separating staff needs from public needs.

There is often overlap between the needs of the public and the needs of the staff. Both use water fountains. But it's all too easy for staff to have the illusion that they grasp the needs of the public. Also, the Study does not clearly identify the areas of overlap. Management will have to identify *where* these needs overlap. As the IF Study suggests, museum personnel enjoy meeting certain needs of the museum's client groups but are annoyed if they are unable to satisfy these needs.

6. Only the needs of those persistent enough to express their needs to

staff were incorporated into the study; to the extent that these expressed needs may differ from latent needs, the needs identified in the Study are incomplete.

We cannot expect to know all of the needs of museum visitors, for example, from the experiences of security guards and volunteers. The information which these groups of museum staff can supply to us, *based on experience, is* valuable but incomplete.

7. Respondents provided their own views from the context of their own experience.

It is interesting that the IF Report acknowledges this point of methodology but provides nothing to aid the reader in re-creating the contexts of the responses. A list of personnel interviewed in the Study, by position, would be a useful complement to the Report.

The IF Study was working within a number of constraints and therefore the results have their weaknesses. However, *even allowing for* these weaknesses, there are additional deficiencies in the resultant report.

First, the methodology is difficult for any reader to follow because no procedural flow charts are provided. The writing is turgid. Moreover, the methodology is not described in detail so it is difficult to determine which analyses preceded the questionnaire and which followed. If a flow chart and questionnaire were appended to the Report, the *methodology* would be clearer.

Second, there is a lack of clear synthesis of the results. Extracting a key data summary (see pp. 5-7 above) is therefore a major task in itself! (Is not a major task of the consultant to provide data?) But there is one additional problem with the IF Report, even more significant than these first two weaknesses.

The major deficiency of the IF Report is that it is not organized for the purposes of establishing functional requirements for museum visitor needs/desires for information. The crux of the problem is the

Ill-considered three-fold classification scheme of the Museums's publics.

Direct Access Client Groups and Intermediary Client Groups are distinguished by their so-called "objective" in seeking information; that is, whether they are seeking information for their own use or whether their objective is to communicate the information to others. The reason for this classification is the belief that the systems and procedures required by the Museum to meet these needs differ. But the third group is classified somewhat differently; that is, not by "objective" but simply because it appears that the Museum will take still different approaches to meeting the needs of this third group.

Looking at the gross picture, this classification would not seem to hamper the development of functional requirements. But looking more closely at the profiles of the subgroups, however, a number of important questions arise which relate to developing functional requirements and which overlap between the various groups. Indeed, two of the major criteria for establishing functional requirements are suggested in the IF Report but the information is not synthesized and then organized according to these criteria: information needs, and context.

Δ What are the information needs or objectives (tourist information, wayfinding, etc.) for each of the groups and subgroups? What are the similarities and the differences? What are the major information objectives and what are the minor ones? Which classes of information are frequently requested?

Δ Which requests are made over the telephone and which requests are made at the museum site? Where do these needs occur at the museum site? Which of these needs need to be fulfilled immediately (i.e. as soon as the client has a question)?

Most of answers to these queries are contained in the IF Report but the classification system hinders access to the information. Many of the subheadings should be reorganized into major headings.

There are two additional problems caused by the manner in which clients' information queries are organized:

Δ "Hard to answer questions"? Is this category perhaps a suggestion that museum staff should continue to respond to these queries personally rather than through information technologies?

Δ Does not general museum-related information include several different classes of information (eg. wayfinding, additional information about the history of the building, etc.) to which the Museum may respond to in different ways? The literature (and our own extensive practical consulting) suggests, for example, that there are different classes of orientation needs which can -- and should -- be approached differently.

Finally, there are two further questions which studies suggest should be addressed when considering information needs:

Δ Which queries are very specific and which are general? Again, the information in the IF Report could be reorganized to answer this question. Such a reorganization would have a profound impact on the approaches, media, etc. which the Museum chooses.

Δ What causes problems of information access which could not be solved by new technologies (eg. lack of photographic records, policy, etc.)?

CONCLUSION and RECOMMENDATIONS

Despite the problems with the IF work, the Study provides some information to the Museum of Man concerning museum visitor needs/desires for information. In this final section of the Report, three of the major problems with the IF project are addressed.

1. Museum clients needs/wants are described from the second-hand point of view of the Museum's staff rather than the client's themselves.

This is a major weakness of the study, but one which will be specifically remedied in this current study which Behavioural Team is undertaking for the Department of Communications. The IF Study

dealt with museum visitor needs for information from the point of view of museum staff rather than the visitors' themselves. But the Study did confirm two important things: (a) most staff have little contact with the museum's clients, and (b) staff would support a study which approaches clients directly.

It is re-assuring to note that many issues which emerged in the Study are supported by research studies undertaken elsewhere. Thus, the major weakness of the IF Study could be remedied immediately if the issues which are supported by research undertaken elsewhere were to be isolated. *The Scientific Authority may therefore wish to consider whether or not this weakness of the study should be remedied immediately by isolating those issues which are supported in the literature.*

2. The profiles of museum clients and details of needs/wants for information are incomplete.

When the clients themselves are addressed (in the study which is currently underway for the DOC) details of needs/wants for information will be fleshed-out and so this weakness of the IF Study will be remedied.

Behavioural Team's methodology also seeks to remedy a major problem with determining user needs which the IF Study comments upon but fails to address. This is the difficulty which users may have in identifying their needs/desires for information, and information technology in particular. Because they have never considered these things before people need help in articulating their views. The problem is further compounded with respect to fulfilling information needs through technologies because this is a pioneering concept in the museum field.

Because visitors may have difficulties identifying their information needs, etc. Behavioural Team proposed a two-part process for identifying these needs: (1) Focus Groups with Mini-Survey, and (2) Survey.

Focus Groups: Although there is now a great deal of evidence in support of providing visitors with information in museums (i.e. as opposed

to providing only artifacts/specimens), very little is known about the types of information visitors need/want and how these needs/wants would best be fulfilled by information technology. In depth, relaxed discussions are an ideal way of identifying the issues, how important these issues are, and how participants respond to these issues. Focus Group discussions are concluded with a mini-survey. This allows people to answer privately and at the end of a thoughtful discussion.

Questionnaires: Questionnaires will be based on issues identified in the Focus Groups. This will allow us to obtain more specific and quantitative information. For example, open-ended questioning in the Focus Groups might reveal that visitors desire information of several different types to be available on Telidon. Questionnaires could then be developed which include asking visitors quite specifically as to whether they agree or disagree with these various categories ("shopping list").

The Focus Groups will yield *qualitative* information, and the surveys will *quantify* this information. Moreover, two of the major criteria for establishing functional requirements -- information needs and context -- which were not adequately addressed in the IF Study, will be addressed in the Focus Groups.

3. A major problem with the Report is one of organization -- physical and intellectual.

In general, the IF consultants failed to conceptualize the problem of identifying the information needs of the Museum's client groups. The Report is lacking in synthesis and poorly organized because it is based on a poor classification system. Finally, this classification hinders the development of functional specifications.

Sooner or later this weakness of the IF Report will have to be remedied in order to develop functional specifications. *The Scientific Authority might consider whether the IF Report should be completely reorganized or whether the preparation of additional syntheses/appendices in which information is reorganized would suffice.* Perhaps neither of these remedies will be chosen at the present time. However, if effective functional

specifications are to be developed, users of the IF Report must at least *consider* the information contained in the Report according to the following major categories:

- information needs of the Museum's client groups,
- context in which the information need occurs,
- specific vs. general queries, and
- queries for which there are currently no answers because of gaps in policy or procedure.

This information *is* available in the IF Report. But to find it, one must look beyond the classification system (i.e. according to client groups) upon which the entire organization of the Report is based.

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