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The World Wide Web enhancing e-government in the Caribbean

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Abstract:

Caribbean governments have established portal or gateway sites on the World Wide Web to facilitate the delivery of e-government information and services. E-government via the Internet is seen as aiming to provide all citizens with an efficient and alternative medium for accessing public services and for interacting with public sector providers. This paper examines the results of global studies of Internet applications used in e-government, and the potential of these websites to contribute to the effectiveness of e-government activities. The research also assesses more closely a number of Caribbean web sites which facilitate e-government and identifies roles of libraries in enhancing citizens' access to e-government information.

E-government aims to provide all citizens with an efficient and alternative medium for accessing public services and for interacting with public sector agencies. These services are expected to result in improved access by citizens to information, government services at reduced costs, and efficiency of service delivery.

The Internet is an important vehicle in the development and delivery of e-government products and services and libraries and other institutions of access are challenged to exploit the potential of electronic networking to make information and services available to the general public. Crucial issues include the establishment of national e-government policies, coordination among government organizations, implementation of public information service delivery, the role of libraries and other public access points, in guiding and facilitating e-government information and regular evaluation and re-formulation of these e-government activities to match the changing needs of citizens.

An example of national e-government policy is in The Five-Year Strategic Information Technology Plan for Jamaica which makes reference to the establishment of networks *"to allow access to government services from libraries, post offices, banks, hospitals and other public locations. ... The key focus is to have citizens throughout the country, even in rural areas, be able to find and receive information and services from different government organizations consistently and easily."*

The paper examines Caribbean and other initiatives which demonstrate some of the major features of e-government including government portals or gateways, privacy and security policies and protection, clearly stated onsite identification of organizations, access to online databases and publications, links to government and non-government web sites, audio and video clips, service delivery, and promotion of services and products.

Effective electronic government seeks to support social, economic and political development, to reduce social exclusion, and to contribute to the well-being of citizens. This requires cultural change and particularly decreasing the separation between the Government and the citizens – community groups, people in businesses, people in government, and in fact any member of the population. Strengthening of the relationships across ministries, across executive agencies and other government bodies, is an important factor, as well as the incorporation of knowledge assets, which provide positive contributions to electronic government resources.

Governments globally and locally are undergoing change in their structures and are taking initiatives for addressing the issues of reducing costs, increasing efficiency in administration, functioning at the convenience of citizens, and increasing interaction among governments, citizens, business and other groups. In recognition of these issues, some governments are expanding their use of the Internet, and extending the facilities for interacting with citizens. Some of the important drivers of improving public information service delivery is the access to or freedom of information legislation, the increasing national and international stipulations for transparency and accountability, and the expected entry of several countries in the region into the Free Trade Area of the Americas (FTAA).

Related developments include the passing of "access to" and "freedom of information" legislation in countries which include Canada, Belize, Hong Kong, Jamaica, Trinidad and Tobago, South Africa, and the United Kingdom.

Electronic government is a term which is increasing in usage, as a means of capitalizing on the dramatic increase in use of information and communication technologies to improve the operations of governments, making it more efficient and transparent. The general strategic objective of e-government is to support and simplify interaction of all groups within the society - government, citizens and businesses.

Governance, e-government and e-governance
The question of definition of these emerging concepts is still unsettled. Some of the contributions to the debate come from analyses done by   Darrell M. West, of Brown University, Michiel Backus in an IICD Research Brief entitled E-governance in Developing Countries, and by Richard Heeks of the University of Manchester.

It is appropriate to look initially at e-government, the older concept, which as Heeks says, has been practised by governments for the last 50 years since the fist mainframes began to be used in "data processing" in the National Statistical Offices.

Heeks (1) defines e-government as "the use of information and communication technologies (ICTs) to improve the activities of public sector organisations."

He does not support the concept that e-government should be restricted to Internet-enabled applications only, or only to interactions between government and outside groups but instead supports the inclusion of e-government of all digital ICTs and all public sector activities.

Michiel Backus (1) on the other hand defines E-government as "a form of e-business in governance" and sees it as referring to "the processes and structures pertinent to the delivery of electronic services to the public (citizens and businesses), collaborating with business partners and conducting electronic transactions within an organisational entity."

Darrell West giving a more general definition, states that "e-government refers to the delivery of information and services online through the Internet or other digital means."

E-governance on the other hand is sometimes seen as a concept which is very close or overlapping with e-government. Backus in seeking to establish a distinction between e-government and e-governance, explains e-governance as "The application of *electronic means* in the *interaction* between *government* and citizens and government and businesses, as well as in *internal government operations"* and further explains a main objective of e-governance as "simplifying and improving democratic, business and government aspects of governance."

I suggest here that electronic governance, commonly abbreviated as e-governance, can be seen as "use by governments of the new information and communication technologies (ICTs) to achieve efficient and effective administration of government, delivery of public services and interaction with citizens individually and as communities." In addition to the above expected components of e-governance are *enhanced democratic participation*, and the facilities to conduct *secure electronic commerce*.

Rogers W'O Okot-Uma of the Commonwealth Secretariat considers that "the route to e-governance is only now emerging, as governments and citizens around the world experiment with, and learn to exploit, new media and the new information technologies." We are therefore seeing evidence of electronic governance facilitating a change in the way leaders function, and providing new avenues for discussion and consensus building. We are also finding that new media are being used to access government services, to do business with government, to access education and training. The facilities offered by ICTs now provide the basis for interactive dialogue with citizens and knowledge communities, and enable the introduction of enhanced methods of structuring content, making information available and delivering it as appropriate.

In Jamaica we see some examples of government ministers periodically appearing in chat rooms regularly organized by the Gleaner online facility. Citizens are therefore able to enter into discussions on topics of concern. These initial contacts must, however, be matched by an information base which can be accessed by government and citizens.

Further discussion in this paper will use the term e-government, but will consider not only the use of ICTs for efficient and effective public administration, but also for facilitating government interaction with citizens, individually and in community groups, and with business.

Implementation of e-government is still in the early days in the Caribbean, and as yet policies are still fragmented. We are at the stage where overall frameworks and strategies and benchmarks are needed to enable and rationalize the development of e-government facilities and functions. E-commerce is a related facility particularly as transactions require digital signatures to be valid. The National E-commerce Secretariat of Trinidad and Tobago has begun a survey to determine the nation's usage and awareness of e-commerce, while in Jamaica the Ministry of Commerce Science and Technology is in the process of developing an electronic transactions policy and related legislation.

One of the major objectives of effective e-government is to enable people who need to interact with government to be able to do "one stop shopping" via a single point on the Internet. While it is may be technically feasible to create a portal such as MyYahoo, the development of a government portal such as the UK Online Citizen Portal also needs collaboration and ongoing cooperation among ministries, and other agencies as information has to be regularly made available to the public via a unified operation. In addition to the United Kingdom other governments including Canada, Chile, Dominican Republic, Singapore, South Africa, have established portals which enable citizens to make contact with a number of agencies via a single point on the Internet.

The value of the portal to citizens cannot be overstated. In an ideal situation this would be the starting point of e-government services but as we know "government" is made up of various organizations which have already made some advances, in their own sectors, in providing e-government information.

Governments worldwide have been using the Internet and particularly the World Wide Web to deliver information and services and to graduate the process from the delivery of announcements and notices to interactive citizen and business participation. Darrell West

in his study of Global E-government, completed in 2002, examined the delivery of public sector information and online services through the Internet. In this project, he studies the features that are available online from the websites located for each government. He used a detailed analysis of 1,197 government websites in 198 different nations, measured the information and services that are online, charts the variations that exist across countries, and discusses how e-government sites vary by region.

The study examined government websites mounted by Executive, Legislative, Cabinet and Judicial Offices and those of the major agencies mainly: health, human services, taxation, education, interior, economic development, administration, natural resources, foreign affairs, foreign investment, transport, military, tourism, and business regulations.

The websites studied were evaluated on the basis of information available, electronic services delivered, and public outreach. In the analysis of websites, the study sought to identify how citizens would find needed information on the websites of government agencies. These covered practical issues such as email, contact names, addresses, guidance to information, and databases, features that would facilitate access by special populations such as the disabled, interactive features that would facilitate outreach to the public, and visible statements that would reassure citizens concerned about privacy and security over the Internet.

Findings from Global e-Government 2004

This 2004 survey found improvements over the previous years but found that that only 21 percent of the websites studied offered **services that are fully executable online***. Of the websites studied 89 percent provided access to publications and 62 percent provided links to databases. Privacy and security policies were not found on the majority of websites with only 14 percent showing privacy policies and 8 percent providing links to databases. In 2004 as in 2003 some form of disability access was found in 14 percent of the websites studied.*

the **most frequent services** *are ordering publications, making travel reservations, searching and applying for jobs, applying for passports, and renewing vehicle licenses*

14 percent of government websites feature a **one-stop services "portal"** *or have links to a government portal*

88 percent of agencies offered email contact enabling citizens to email an officer of a particular ministry or department,

English has become the most commonly used language of e-government. 77 percent of national government websites have at least some portion of their websites in **English version**

50 *percent of sites are* **multilingual***, meaning that they offer information in two or more languages*

The most **highly ranked nations** *include Taiwan, Singapore, United States, Canada, Monaco, China, Australia, Togo and Germany.*

Caribbean governments have also increased their presence on the Internet with a view to reaching citizens and facilitating interaction. The study by West identifies the following features of e-government in the Caribbean according to the provision of information and services and access by the disabled:

Individual Country Profiles for Selected Features, 2004 (data extracted from West's (Table A-3, 2004)						
	Online Services	*Publications*	*Data bases*	*Privacy Policy*	*Security Policy*	*W3C Disability Accessibility*
	%	*%*	*%*	*%*	*%*	*%*
Antigua and Barbuda	0	100	0	0	0	0
Bahamas	100	0	0	100	0	0
Barbados	25	50	50	0	0	25
Belize	0	100	50	25	25	0
Cuba	0	44	56	0	0	22
Dominica	100	100	100	100	0	0
Dominican Republic	0	100	100	0	0	0
Grenada	33	33	33	0	0	33
Guyana	0	100	100	0	0	50
Haiti	0	50	0	0	0	100
Jamaica	12	100	24	12	12	6
Saint. Lucia	0	100	75	25	25	0
St. Kitts/Nevis	0	100	0	0	0	0
St. Vincent and the Grenadines	0	100	50	100	0	0
Suriname	0	0	0	0	0	0
Trinidad and Tobago	17	83	28	17	6	11

In another study entitled Global e-Government readiness report 2004: Towards Access for Opportunity, UNDESA assigns scores to countries according to the stage of implementation of e-government. Stage I is limited provision of information which is limited and basic; in Stage II governments provide information including policies, laws etc and access to relevant databases. Stage III is categorized as interactive, with services convenient to the consumer while Stage IV allows two-way transactions, and in Stage V governments enable citizens to participate in decision making (UNDESA, 17)

The Caribbean scores start in position 53 with Jamaica , and ends in position 184 with Haiti which was reported to have no web presence for e-government at the time the study was done in 2004.

CARIBBEAN SCORES BY STAGES OF E-GOVERNMENT (Extracted from Table 7 p.152 UNDESA STUDY 2004)							
	STAGES	I	II	III	IV	V	
53	Jamaica	100.0	51.7	56.0	0.0	11.1	38.7
64	Dominican Republic	75.0	63.2	32.1	0.0	7.4	33.6
68	Trinidad and Tobago	87.5	48.3	38.1	0.0	7.4	31.0
69	Saint Lucia	100.0	39.1	47.0	0.0	5.6	30.8
75	The Bahamas	100.0	34.5	47.0	0.0	0.0	28.3
98	Belize	87.5	12.6	44.0	0.0	1.9	20.4
103	Guyana	62.5	19.5	34.5	0.0	5.6	19.7
107	Barbados	87.5	26.4	17.9	9.8	3.7	18.6
137	St Kitts and Nevis	50.0	13.8	5.5	0.0	1.9	10.9
143	Cuba	50.0	17.2	6.0	0.0	0.0	8.8
151	Dominica	0.0	9.2	8.3	0.0	5.6	6.6
161	Suriname	0.0	8.0	7.1	0.0	0.0	4.7
164	St Vincent and the Grenadines	0.0	10.3	0.0	0.0	5.6	4.4
168	Antigua and Barbuda	25.0	0.0	8.3	0.0	0.0	3.3
170	Grenada	12.5	9.2	0.0	0.0	0.0	3.3
COUNTRIES WITH NO (e-GOV) WEB PRESENCE							
184	Haiti	0	0	0	0	0	0

No government in the global study showed seamless e-government.

Ranking of Caribbean sites among the top 20 globally in 20024 was as follows:

National Sites Offering some type of online services	*Bahamas*	*100 percent*
Top Countries in Security Policy	*St Lucia*	*17 percent*
Top Countries in Privacy Policy	*St Lucia*	*17 percent*
Countries Having Largest Number of Websites with Restricted Areas	*Dominican Republic*	*25 percent*

West's study is of course based on the offering or "supply side" and does not attempt to assess how users access, interact with, and evaluate information sources which are not necessarily tailored to their needs or interests. The general principle of "the right information, to the right use at the right time" is impatient of debate. The need to match information needs to citizens' requirements has to be factored into the process of developing and evaluating e-government applications. Priority needs to be given to information which will be used by citizens to undertake activities of immediate concern such as assistance in employment, social security, consumer concerns, meeting registration requirements, voting, and finding out about activities related to their own communities.

In a graduate research paper done in 2004 at the University of the West Indies, Kareen Bourne undertook a critical evaluation of websites in the Commonwealth Caribbean to determine the level of government information provision via the World Wide Web. Bourne examined seventeen e-government or gateway websites, and found that of the seventeen countries twelve can be considered portals or gateways to government services. Again Bourne's study examines the variables relating to identification, interface design, search options, ease of navigation, content, currency, and ranks the sites according to features. Four sites, were judged to be excellent sites, six good, and seven were rated as poor.

There still remains need for usability testing of these sites in relation to the concerns and needs of citizens. Bourne's recommendations include the need to "pursue further studies in accessibility and use of information by citizens."

Competence in network use is another important factor in making e-government work. The active and effective use of e-government websites is dependent on the general ability of people to access and use the Internet, to navigate and seek information and to utilize electronic public services offered by e-government. Durance and Pettigrew report on a study on the way the public library helps citizens to obtain community information over the Internet and public library involvement in community networks.

In their research Durrance and Pettigrew found that users sought "community information" for personal and work-related situations with an emphasis on "information about employment, volunteerism and social service availability, local history and genealogy, local news, computer and technical information." They also found that users situations were complex and usually required multiple pieces and sources of community information hence they often try other sources including friends, newspapers, telephone directories, before consulting the public library network.

The results of this survey across the United States seem to indicate that there is very valuable work which public librarians are doing to increase citizens' access to relevant information from trusted information sources brought together in community networks. The users consulted by Durrance and Pettigrew reported an increased ability to access relevant community information. The interviews with users of community information networks repeatedly revealed the appreciation that people felt being able to get information that they had previously viewed as hard-to-get. They were told that "through the network they felt that they were able to access a 'higher quality' of information - more current, more comprehensive, better organized, and information linked to other relevant sources and sites." The researchers also found that the information brought together on the community network was easier to use, saved them time, money, and energy, reducing their "transaction costs" and increasing the convenience of getting information. Finally, users of the community information services felt that they had an increased ability to identify trusted information.

Durrance and Pettigrew found that their research also highlighted the important role which community groups can play as information providers. The community information

networks help non-profits and government agencies become information providers. These non-profits and government agencies are learning to recognize their responsibility to provide content regarding their services and programs via their library-sponsored electronic community networks. The non-profit organizations have come to value librarians' knowledge, skills, and ability to increase
access to community information.

If we consider the reports of West and of UNDESA which assessed websites, we can see that the issue of content and organization of content still needs to be brought together in a way that it can satisfy the users' complex needs as identified by Durrance and Pettigrew.

Ann Bishop et al provide an interesting example of a strategic partnership between a local grassroots social network - SisterNet, librarians and a group of researchers, in a socially grounded participatory process for the development of a web-based health information system. The features identified by West particularly security and privacy policies, point to the need to incorporate these features in developing web-based community information networks.

Effective e-government facilities depend on the availability and distribution of the information infrastructure. Citizens are located all over the country, and while there is usually concentration in the major cities and towns, there is also need for ensuring that an important objective is the penetration of the Internet, development of reliable, low cost access, and the availability of public access points. The Jamaica Government, in December 2002 completed the negotiation of a project with the Inter-American Development Bank for improving electronic government, and for establishing about 60 telecentres throughout the country.

In considering the penetration of the Internet in the Caribbean, it is also important to factor in the development, availability and state of readiness of public access points as found in libraries, community centres, educational institutions, public kiosks and other locations which influence the effectiveness of e-government. These "public access points" may not only enable users of the immediate communities to obtain access to government websites, to send e-mail and to access the Internet, but may also permit communities of practice to communicate, exchange experiences, and to develop and offer information resources relevant to their own areas of interest.

In considering how the context in which citizens would be able to access e-government resources, it is recognized that there are some barriers to use of the e-government resources which include basic information, technology literacy, and lack of basic competence in using the Internet.   David Bawden in examining the scope of information, computer, library, media, network and digital literacy, recognizes the relevance of all these concepts to the competence of people who are expected to be beneficiaries of e-government services and products. Information and digital literacy are seen as 'newer forms of literacy' which rely on knowledge, perceptions and attitudes as well as the simpler skills-based literacies.

The development among citizens of information and digital literacies will certainly reduce some of the barriers to effective use of e-government services. Other barriers, however, which need to be overcome include the cost of computers, connections and software, and in some cases the lack of guidance to government websites, and information sources. The Internet because of its origin still tends to be oriented to education, research and does not always provide the required user friendliness and guidance.

The *International Computer Drivers' Licence* is an interesting development which began in Europe and which certifies a set of standards considered necessary for functioning in the digital age. These focus on the capacity of people to use computer hardware and software, and but do not extend to other aspects of information literacy. In mapping the major components of information related competencies, Reijo Savolainen identifies information literacy as the intersection of computer literacy, network competence, information skills, communications competence, and traditional literacy within the framework of information and communication technologies and the content of information. I agree with Savolainen and previously Barry (1997) and McClure (1993) who summarize the issues by stating that "network competence is not interesting as an individual concept but as a component of action for example in information seeking". They identify four basic requirements for network competence in information seeking as:

- Knowledge of Internet information resources and their organization;
- Ability to use of tools such as Internet search engines to locate information;
- Ability to evaluate information, select what is relevant to specific information needs;
- Ability to use email and other messaging facilities to communicate among and exchange information among relevant groups.

Further investigation into the role of competence in network use as a resource for citizenship, has been done in Finland by Pirkko Jääskeläinen, and Reijo Savolainen. Their study addresses the questions of the ways in which perceived network competence correlated with the attainment of the goals of citizenship among various groups of people using computers and the Internet and the major implications of low network competence for the development of the digital divide.

Increasingly citizens need to access information for their functions in everyday life. People need information to find out about jobs, housing, and educational opportunities, registration, pension and social welfare benefits, consumer protection, markets for their products, and community and leisure activities.

Returning for a moment to the findings of Durrance and Pettigrew it is evident that libraries have the opportunity to add value to e-government information. As e-government develops further, libraries must play a major role as institutions of access and must increase their production of value-added products and services. An interesting example of a value added product is the Topical Brief *eGovernment Strategies and Practices* prepared by the National Library Board of Singapore. This brief introduces the

topic by providing an overview, and definition, of e-government. It uses a definition by <u>Accenture</u>, to explain the nature of an e-government strategy. "A true Internet strategy, according to the report, must examine all aspects of the business model, including interactions with customers and stakeholders, and should identify those areas where more value can be created for all stakeholders, by moving processes and interactions online."

The brief continues by summarizing selected country studies on e-government initiatives and providing references to websites. Issues are presented including that of privacy, and trends include towards citizen- centric functions based on portals. Online sources and recent hard copy materials allow the reader to go further into the topic. This type of value added product is presumably what the people interviewed by Durrance and Pettigrew were talking about when they said

> "*through the network they felt that they were able to access a 'higher quality' of information - more current, more comprehensive, better organized, and information linked to other relevant sources and sites.*"

Libraries and library networks therefore play the role of selecting and adding content, and presenting it to groups of users in appropriate formats. This is likely to result in the development of official portal sites and providing links to relevant e-government websites and sources. Users can also extend their interaction with the library staff through the electronic reference services and may participate in discussion groups with communities of practice.

Libraries may also extend the use of their websites to teach by example. The website of the National Library and Information System of Trinidad and Tobago (NALIS) demonstrates this as their frequently asked questions include questions such as the procedure to apply for a passport and access to other government services.

Communities of practice which may exist on a regular basis within organizations, or within the general public interact on a regular basis around a common set of issues, interests or needs. These groups play an important role in teaching and learning and not only the initial use of information, but also incorporation of experiences to inform further activities.

Libraries have also had alliances with governments and community groups but e-government now provides citizens with an efficient and alternative medium for accessing public services and for interacting with public sector providers. Some of the areas where we can see potential for the further development of knowledge communities include those mentioned earlier as natural priorities for e-government.

Citizens need a single entry point for accessing government services. Portals or gateways which are easily recognizable to the general public are the means of guiding citizens to the range of information and services which are available. Global portals such as the Canada Portal Site http://www.gc.ca/main_e.html have features which demonstrate best practices in government portals.

Canada is the fourth ranked nation in West's 2004 survey and this is reflected in the well structured Home Page of the portal. Users can see links to directories of representatives and Federal employees and a scroll down bar provides another route to information through frequently asked questions. Privacy and security policy statements are also related announcements under "Important Notices".

In the Caribbean several governments are developing government portals as official websites for the government. The question is how does an average citizen identify the most effective portal which would permit "*one stop shopping*"?

I suggest that the following additional features need to be taken into consideration in developing effective e-government portal sites.

- The portal should be recognized throughout the government agencies as the entry point or gateway to government websites and access to services. This should be supported by appropriate policies and guidelines;

- The URL should consist of elements readily recognizable by the general public; e-jamaica.gov.jm

- There should be a clear statement on the Home Page that the portal provides links to the government agencies, and information on how to contact officials;

- The Home Page should permit the user to have access to a good site map as one means of locating required information and services;

- The Home Page should also permit searching to enable the user to have alternative means of access to information and services.

- The Home Page should facilitate contact with agencies and officials through directories of street addresses, telephone numbers and email addresses.

- Colour layout and design of the Home Page should provide an attractive and functional graphical user interface;

- The portal should provide access to forms and the ability to transact related services online;

- The portal should provide access to full-text documents of laws, regulations, commission reports etc;

- The citizen should be assured of privacy and security relating to the information.

The 2004 study by UNDESA in addition to assessing readiness for e-government, also examines the extent of e-participation. The qualitative assessment survey determines the usefulness of the information and services provided. The e-participation index goes

further than the earlier assessments and attempts to determine if the e-government information and services are conducive to an online and participatory process between the government and the citizens. The UNDESA study does not define e-participation but identifies necessary elements as access to physical infrastructure.

The countries in the Caribbean are rated as ranging from 0.1475 to 0.0000 in terms of e-participation, and countries are ranked globally from 28-36 with four countries showing no e-participation.

Libraries should use their own portal websites to identify and enhance the e-government information provided by governments. In these early stages of e-government individual citizens need guidance, *pathfinders* and other aids in finding and using e-government, information and in completing transactions on or offline. Effective e-government depends on the degree to which citizens have the knowledge and abilities to use the services offered.

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Caribbean governments have made significant advances in using the World Wide Web to provide information and services, to citizens. The global studies show consistent developments in e-readiness within the government, and evidence of advancing in e-participation. Sixteen Caribbean countries currently have official government sites which contain features required for e-government, and which provide links to the websites of ministries and other government agencies. These gateway sites vary in the degree to which they support e-government and several demonstrate indications of best practices. The websites of Antigua and Barbuda, Barbados, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, and Trinidad and Tobago, indicate that there is a national policy and positive interest in informing citizens of the government's desire to interact with its citizens.

We can first consider how these sites are known and recognized by the "average citizen". Mnemonic features such as the inclusion of "Government" and "official" in the titles of these websites should help citizens recognize them as entry points. The inclusion of the name of the country and the .gov extension in the urls also helps users make the association with government information. Of the sixteen sites studied nine were found to have mnemonic elements in the urls. Users of these sites are also assisted in identifying official sites by the use of the national symbols such as flags or coats of arms.

The links offered to the sites of government ministries, corporations and other agencies are important signals to the "average citizen" of the information and services which the portal /gateway website offers. Of the sixteen sites studied fifteen offered links to the sites of government agencies. Caribbean government sites which offer links from the Home Page include Cayman Islands with a hyperlink from the Home Page to government websites, Trinidad and Tobago which with a section headed Government Online and which offers a drop-down menu to permit display of a list of all the linked sites and selection of the websites of ministries and other agencies.

Access by the average citizen to a site map is another desirable feature of government gateway sites. Of the sixteen sites studied seven offer site maps of varying degrees of complexity. The sites of Saint Lucia and The Cayman Islands are two with classified hyperlinked site maps.

The ability to search each site provides "the average citizen" with additional means of locating information and services. Eight of the sixteen sites studied had enabled users to search the site. Searching the Bahamas provided evidence of very detailed indexing with the results sorted by relevance.

Electronic government depends on the citizens having a means of contacting members of the government and of the public service by phone, email or by actual visits. Nine of the sixteen sites studied provided access to directories of contact information for ministers, and public officers. The information in the directories is usually well presented with fairly detailed entries as in the case of the Bahamas and the Cayman Islands sites.

The process of accessing e-government services can be facilitated through electronic access to forms. Seven of the sixteen sites studied provide access to application forms for initiating government services. The areas for which forms are provided include registration of births, marriages, deaths, tax filing , company registration, and applications for passports, permits and licences. Access to these forms is the first step in the process of online transactions. For the websites examined the forms for the services mentioned above simply eliminate the need for an initial visit to the responsible government agency. The e-jamaica portal provides access to the website of the Jamaica Customs. The **C**ustoms **A**utomation **Se**rvices (**CASE**), is an online Internet based system which enables the global trading community to have online interaction with the Jamaica Customs. Since 2003 registered users can make "e-payments" and "query the status of their transactions and be updated with the latest information".

On the website *The Government of the Republic of Trinidad and Tobago Online,* application forms for passports, visas and restoration of citizenship can be downloaded but completed forms must be submitted in person.

There are already e-government information and services which will be of interest to the "average citizen" There is an important role for libraries to play in enabling users to locate and access these services. As an example of the library's extended role, The National Library and Information System of Trinidad and Tobago which is linked from the main e-government site does provide a link to answer the question: How do I apply for a Passport? and could go further and make the another link to the passport application form which can be accessed from the e-government portal *http://www.ttgov.gov.tt/services/eforms.asp*.

Privacy and security are essential features of effective e-government transactions. Statements on the privacy of information on the websites appear only on the sites of Antigua and Barbuda, The Cayman Islands and Saint Lucia.

Caribbean governments are increasingly offering the full texts of laws, reports, and other documents. Of the sixteen websites studied there were nine sites which offered full text access. Libraries have a particular role to play in guiding users to materials relevant to e-government.
So far the documents have not been posted in a systematic manner, and   users therefore may not always be able to locate the documents which they require.
Online transactions are still relatively new and the Jamaica and Barbados are the two countries where online payments are facilitated.

In Jamaica for example there are three sites those of the Jamaica Information Service (JIS), The Cabinet Office, and the e-jamaica *"The Government of Jamaica's online portal."* All three sites provide access to information about the government's activities, and links to agencies in the public and private sector.

Evaluation must be instituted and ongoing and this can be a major contribution of those who practice and research in the library and information field. The usual surveys done by

libraries can be extended to e-government issues, to determine how e-government information is meeting the needs of individual citizens and communities of practice which may function in areas of interest of citizens. Evaluation may also take the form of usability studies where librarians can gain empirical evidence of citizens' competence in seeking and locating information in public access centres, or over the community information networks. These usability studies are important to guide librarians and governments to the ways in which e-government services can be further developed in collaboration with libraries and community groups.

Libraries in the Caribbean are at an exciting crossroads where the opportunity exists for them to play a greater role in enabling citizens to find appropriate paths to e-government information.

FEATURES OF CARIBBEAN E-GOVERNMENT GATEWAY OR PORTAL WEBSITES

COUNTRY	Policy on website	Mnemonic Url	Links to govt websites	Site Map	Search	Govt Directories	Colour and design	e-gov Forms	Privacy & Security	Full text docs	Online transaction	Consultation
Anguilla	✓		✓	✓	✓	✓	✓			✓		
Antigua & Barbuda	✓	✓	✓			✓	✓	✓	✓	✓		
The Bahamas		✓	✓	✓	✓	✓	✓	✓				
Barbados	✓	✓	✓					✓		✓	✓	
Belize		✓			✓		✓			✓		
Cayman Is			✓			✓	✓	✓	✓	✓		
Cuba		✓	✓									
Dominican Republic			✓		✓		✓					
Grenada			✓	✓		✓	✓			✓		
Haiti	✓		✓	✓			✓					
Jamaica	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Montserrat	✓		✓				✓					
Netherlands Antilles			✓	✓	✓		✓					
Saint Lucia	✓	✓	✓	✓	✓	✓	✓		✓	✓		
St Kitts and Nevis	✓	✓	✓		✓	✓	✓	✓		✓		✓
Trinidad and Tobago	✓	✓	✓			✓	✓	✓				

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E-GOVERNMENT GATEWAY/PORTAL WEBSITES STUDIED

Official Website of the Government of Anguilla http://www.gov.ai

Government of Antigua and Barbuda: Official website for the Government of Antigua and Barbuda http://www.antigua.gov.ag/

The Government of the Bahamas The official government website.
http://ww.bahamas.gov.bs

Government of Belize
Official site of the Belizean government. http://www.belize.gov.bz

Cayman Island Government http://www.gov.ky

Government of the Republic of Cuba - [Translate this page] http://www.cubagov.cu

Republica Dominicana http://www.presidencia.gov.do

The Government of Grenada http://www.gov.gd

Welcome to the website of the Embassy of Haiti http://www.haiti.org

E-Jamaica. http://www.e-jamaica.gov.jm

Welcome to The Government of Montserrat Online http://www.gov.ms

Centrale Overheid van de Nederlandse Antillen - Welkom http://www.gov.an

Government of Saint Lucia   http://www.stlucia.gov.lc

Official web-site of the Government of St. Kitts & Nevis http://www.stkittsnevis.net

The Government of the Republic of Trinidad and Tobago Online http://www.ttgov.gov.tt