

Analysing The Compliance Of Government Websites Of The State Of Punjab With The Indian Web Guidelines Compliance Matrix

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Abstract

Through this publication we intend to represent the need for standardization in the website development and designing process in the government setup. The work elaborates the compliance of the Indian Web Guidelines in relation to the websites of the State of Punjab in India. The quantitative manual analysis has been done considering 115 points of the mandatory compliance matrix for the Indian government website.

By generating a figurative conclusion of the compliance matrix the percentage of compliance and non compliance has been determined. Further there are some points that are not considered because of their nature that varies from one government website to another.

The results obtained could be used to study the impact of Indian Web Guidelines [4] on the existing government websites. The paper would form the basis of modification of the existing government websites for the removal of Non Compliant factors and the addition of the factors that were earlier not considered. This practice would enable the designers and developers both to modify existing government websites and build new government websites in uniformity as per the Indian Web Guidelines [4].

1. Introduction

Many governments all around the world have highlighted independent standards and specifications governing the various technical and design based issues of the Government websites which affect development and administration of web sites and web

services [5, 6]. Governance of a website may comprise of superset of varied responsibilities like: 1) Online strategy and budgeting, 2) Website hosting and Administration of Systems and Software, 3) Commercial and marketing perspective of Website, 4) User's Usability experience, availability of Services and information, 5) Graphical design of the website, 6) Strategic workflows and Web content development, 7) Architecture of the website, Security of the Website, 8) Accessibility and any legal issues (for example, copyright, trademark et al.), 9) Information ethics and training, being of more significance, though there are many more issues involved.

The standards ultimately describe the compliance of the government websites in meeting the various aspects that are affecting the user's of these websites – The Citizens of The Country or The State.

1.1. The Indian Scenario

Government of INDIA is committed to provide and lay down certain standards that form the integral part of the website design and development process.

As far as the Government Websites are concerned there are approximately 5000 government web portals [4] that are providing huge amounts of information through the web. When this huge amount of information flows from these portals to the citizens of India, the overall experience of using these websites is not the same. The quality [2] and design [1] of the Website is also an integral part of the design and development process of a government website that makes the website Citizen centric [4].

The process of Accessing Information, Representing and Retrieving Information, appearance of Website and process of Searching Information, in all these 5000 portals spread around the map of the Country need to be tied down with some stringent specifications.

2. Background

In the year 2009, under the directions of the committee, The National Informatics Centre's Data Centre and Web Services Division came up with a standardized booklet entitled "Guidelines for the Indian Government Websites", *An integral part of Central Secretariat of Office procedure* [4], which encompasses a common set of guidelines to be followed for all the State Level and National Level Government Departments who put information regarding their services on the Web. The 115 points provide an in depth coverage of guidelines that have to be followed by the Government departments in putting up the information on the Web.

The guidelines cover a variety of topics comprising of [4]:

1. Government identifiers on Websites.
2. Government Domains and User friendly features.
3. Representation of information.
4. Regional Language support and Design guidelines.
5. Linking of Web pages, Terms and Conditions, Copyrights and Website Hosting Process.
6. Development process defining common markup languages scripting languages.
7. Search Engine Optimization and Website Management Team.
8. Website Maintenance Tools and Website Security.
9. Website Monitoring, Review Enhancement and Policies.

In this paper the State of Punjab has been chosen for the analysis purpose so as to generate the quantitative result of the basic compliance of a collection of various State department websites.

3. Analysis Approach

In this paper manual analysis is done for each of 115 points that are checked for their respective adherence to the three variables for the 19 government websites of Punjab as no automated tool exists as per the Indian Web Guidelines [4]. The analysis of 19 government websites of the State of Punjab is done manually for 115 Compliance matrix points of the Indian Web Guidelines [4].

The analysis approach is divided into three steps namely:

- 1) Basic Analysis
- 2) Assignment of Weights
- 3) Calculation

Step1. Basic Analysis

Using the 115 points of the Compliance Matrix of the Indian Web Guidelines [4], government departmental websites of the state of Punjab are analysed.

1. The points which are found to be in compliance with the guideline are marked with IC (In compliance) variable
2. The points that are found to website be missing in the respective government website are marked as NIC (Not in Compliance).
3. Another category is created using a variable as NTBC (Not to Be Considered) for those guideline points that are not of relevance to the department's Website. This category is created so as to justify that all the 115 points though mandatory may not all be met with the compliance or non compliance. Because of the government department's functioning, responsibilities, policies and procedures there has to be some points that are left without getting compliance or non compliance checked.

A government website is analysed and the respective entries for the IC, NIC and NTBC variables are done in a tabular column next to the specific guideline point. Table 1 attached along with gives an insight into the basic process of Analysis.

Table 1. Basic Analysis Step

| Compliance matrix for Guidelines for Indian Government Website no.1 (http://punjabgovt.nic.in/) 10 / 11/ 2012 11.15pm | | | |
|---|---|----------------|--------|
| Section 1 Government of India Identifiers | | | |
| S.no | Mandatory Guideline | Ref No. | Status |
| G1 | Association to Government is demonstrated by the use of Emblem/Logo, prominently displayed on the homepage of the | 2.1.1 | IC |
| G2 | Ownership information is displayed on the homepage and on all important entry pages of the Website | 2.1.2 | NIC |
| G3 | Complete and self explanatory title of the homepage(appearing on the top bar of the browser) is provided | 2.1.6 | NIC |
| G4 | Website is registered under "gov.in" or "nic.in" domain | 2.2.1 | IC |
| G5 | Website provides a prominent link to the "NationalPortal" form the Home Page and Pages belonging to NationalPortal load in new browser Window | 2.3.1 2.3.2 | IC |

Step2. Assignment of Weights

The variables marked in the Status column are assigned individual weights as follows: The In Compliance variable (IC) is assigned a weight of 1. The Not in compliance variable (NIC) is assigned a weight of 2 and the third variable Not to Be Considered (NTBC) is assigned a weight of 3. The respective variables with their respective weights are marked in each websites analysis table in three separate columns as shown below in Table 2.

Table 2. Assignment of respective weight values for the IC, NIC and NTBC variables

| Compliance matrix for Guidelines for Indian Government Websites Website no.1 (http://punjabgovt.nic.in/) 10 / 11/ 2012 11.15pm | | | | | | |
|--|---|----------------|--------|----------|-----------|------------|
| Section 1 Government of India Identifiers | | | | | | |
| S.no | Mandatory Guideline | Ref No. | Status | IC value | NIC Value | NTBC Value |
| G1 | Association to Government is demonstrated by the use of Emblem/Logo, prominently displayed on the homepage of the | 2.1.1 | IC | 1 | 0 | 0 |
| G2 | Ownership information is displayed on the homepage and on all important entry pages of the Website | 2.1.2 | NIC | 0 | 2 | 0 |
| G3 | Complete and self explanatory title of the homepage(appearing on the top bar of the browser) is provided | 2.1.6 | NIC | 0 | 2 | 0 |
| G4 | Website is registered under "gov.in" or "nic.in" domain | 2.2.1 | IC | 1 | 0 | 0 |
| G5 | Website provides a prominent link to the "NationalPortal" form the Home Page and Pages belonging to NationalPortal load in new browser Window | 2.3.1 2.3.2 | IC | 1 | 0 | 0 |

Step3. Calculation

In this step the individual total of the respective variables is done and each of the totals for IC, NIC and NTBC variables is divided by 1, 2 and 3 to achieve the exact count of the total occurrences of the respective IC values, the NIC values and the NTBC values. These values are found out for each of the tables constructed for the 19 government websites analysed. Finally this whole data is merged into one

sheet (as depicted in Table 3) covering 115 guideline points with 19 government websites data to calculate the individual percentage of the IC, NIC and the NTBC variables for each government website.

Table 3. Percentage of IC, NIC, NTBC variables for each guideline point.

| Guideline | Ref | WD | | | | | | | | | | | | | | | | | | | ICPer | NICPer | NTBCPer | | |
|-----------|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|--------|---------|------|---|
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | | | |
| G1 | 2.1.1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | | | |
| G2 | 2.1.2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | | 73.7 | 26.3 | 0 |
| G3 | 2.1.6 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 68.4 | 31.6 | 0 | |
| G4 | 2.2.1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | | 94.7 | 5.3 | 0 |
| G5 | 2.3.1 2.3.2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | | 78.9 | 21.1 | 0 |
| G6 | 3.3.1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 36.8 | 63.2 | 0 |
| G7 | 3.1.4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | c | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | | 0 | 100 | 0 | |
| G8 | | | | | | | | | | | | | | | | | | | | | | 10.5 | 57.9 | 26.3 | |

4. Result

The total additive percentage of IC variable for 19 government websites per guideline comes out to be 4368. The total additive percentage of NIC variable for 19 government websites per guideline achieved is 2969. The total additive percentage of NTBC variable for 19 government websites per guideline achieved is 4163. The overall mean average percentage for respective IC, NIC and NTBC Variables for 19 Government websites of Punjab per guideline is 38, 26 and 36 respectively as depicted in Table 4.

Table 4. Final Result

| Guideline | Ref | WD | | | | | | | | | | | | | | | | | | | ICPer | NICPer | NTBCPer | |
|-----------|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--------|---------|------|
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | | |
| G112 | 9.2.1 9.2.2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 10.5 | 0 | 88.5 |
| G113 | 10.1.1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 100 | |
| G114 | 10.3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 100 | |
| G115 | 10.7 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 100 | |
| Summary | | | | | | | | | | | | | | | | | | | | | Additive percentage of three variables per guideline for 19 websites | | | |
| | | | | | | | | | | | | | | | | | | | | | 4368 | 2969 | 4163 | |
| | | | | | | | | | | | | | | | | | | | | | Average Mean value percentage of three variables per guideline for 19 websites | | | |
| | | | | | | | | | | | | | | | | | | | | | 38 | 26 | 36 | |

After the requisite calculations for three variables IC, NIC and NTBC the graphical representation of the 115 guidelines in comparison with three variables is shown below in Figure 1.

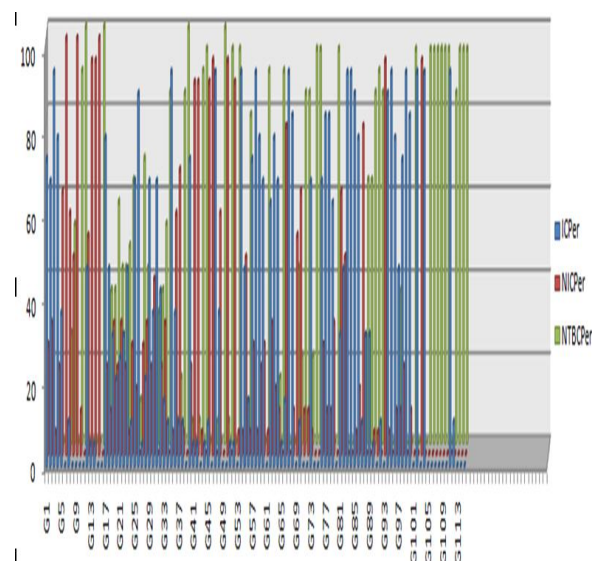


Fig.1. Bar Chart for IC (blue bar), NIC (red bar), NTBC (green bar) variables

5. Conclusion

By calculating the values of the IC (In Compliance) variable, the NIC (Not in Compliance) variable and the NTBC (Not To be Considered) variable an insight can be drawn by the developers and the designers of the government websites to bring the government websites under the view of uniform proximity of Indian Web Guidelines. Minimisation of NIC and the NTBC variables should be a task undertaken by various Departments of Government of Punjab to establish more user friendly compliant websites. Further, the endeavor of reducing the mean percentage results of NIC and NTBC variables per guideline would help the State of Punjab reap rich benefits by establishing coherence in the Website design, development and modification process in a more citizen centric manner [4] for better e-governance.

6. References

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