Online Web Monitoring Tool

Editorial Team

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Background

Government of Gujarat has more than 250 websites for its different departments. Among all, most of the websites are hosted on GSWAN server. Gujarat Government has taken steps towards the website should be regularly updated and up to the standards.

The motive is to regularly track and monitor more than 250 government websites to comply and help in effective implementation of Department of Science & Technology issued website policy for development & maintenance of website for Government of Gujarat.

Situation before initiative

Department of Science & Technology has issued a website policy for development & maintenance of website for GoG. As per website policy GIL/Department selects the vendor for the development/maintenance of departmental website.

It was a complex and manual task for department as well as GIL to keep monitoring them and to know when the sites were updated or whether they have any issue or error in the site.

Challenges before the initiative:

- Does the content of our site updated regularly?
- Does the site content fundamental and organization content?
- Does your site contain any publications, stories, FAQs and a mix of content sources including links to other websites?
- Does the site have some content, links which is not accessible online?

To overcome this situation, GIL has developed an automated Tool for Online Website Monitoring and Reporting which not only addresses above issue but also provide some additional very useful reporting for the Govt. department and to GIL for effective IT Governance in terms of Websites at GSWAN web server.

Objectives

The main objective of the proposed system is to monitor all the GoG websites in terms of followings.

- Regularity of site Updation
- Incorporating/Reporting Compatibility between different browsers according to W3C standards and accessibility.
- Details of Domain, IP and server
- Dashboard facility for content accessibility for a particular site/portal.
- Reporting/maintenance of broken links.
- Role Base Access Control (RBAC)
- An Administrator Control Panel

Requirement of Web Monitoring Tool

- This is a website auditing and monitoring solution by GIL. This solution will help you and your department track and audit website on demand and instantly.
- However this system also provides some very useful information to your department by providing essential reports such as when the website was last updated, which are the last updated pages automatically.

- This is very comprehensive solution which covers basic reports as well as very advance server side and site statistics report which includes when the website was last updated, which are the last updated pages, from which country website is being viewed and other more than 200 reports automatically as well as on demand and it also provides ability to export all report in to Microsoft Excel file.

- More over this system also provides you reports such as who visited the site in aggregated manner from which country and referrals. This document provides you list of reports available in to this system.

Working with Web Monitoring Tool

- The solution is deployed at the GIL in the dedicated application server and is now available to department via GSWAN.

- The user of GIL Web Monitoring Tool can not modify or delete any page or part of the pages of website, but have access to various configuration settings including scheduler, filters and log path.

```
                        Super Admin
                        [CM Office/GIL

    User/Admin          User/Admin          User/Admin
[State Level Offices] [State Level Offices] [State Level Offices]

  User      User      User      User      User      User
  [DO]      [DO]      [DO]      [DO]      [DO]      [DO]
```
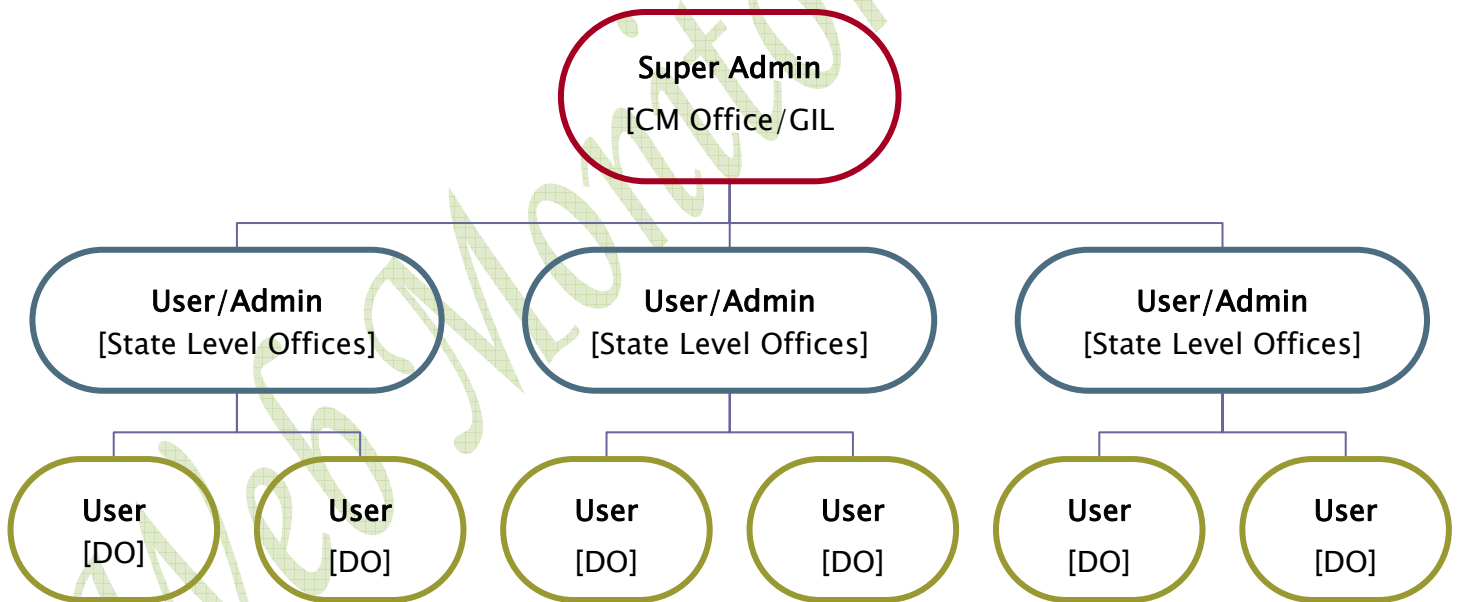
Figure 1: Users and Groups

- The system provides administration option for GIL to grant access of particular website or set of websites to the department user/s.

- The department users will have an access to their website only with reports generating as well as view only access.

- User at district office has only rights for the website profiles for their areas of working and interest. The User who is authorized to see the website profile can only see the information and reports, any access other then the User will be denied.

- User at State Level Offices has permission and rights of all the state website profiles as well and all sub district/department website's profiles.

- Super Admin at CM Office/GIL Department have all the rights on the State Level as well as District Level departmental website's profiles, and able to manage the properties and behavior of the Web Monitoring Tool.

Main work areas

The application/tool will be designed to work consisting of four major work areas:
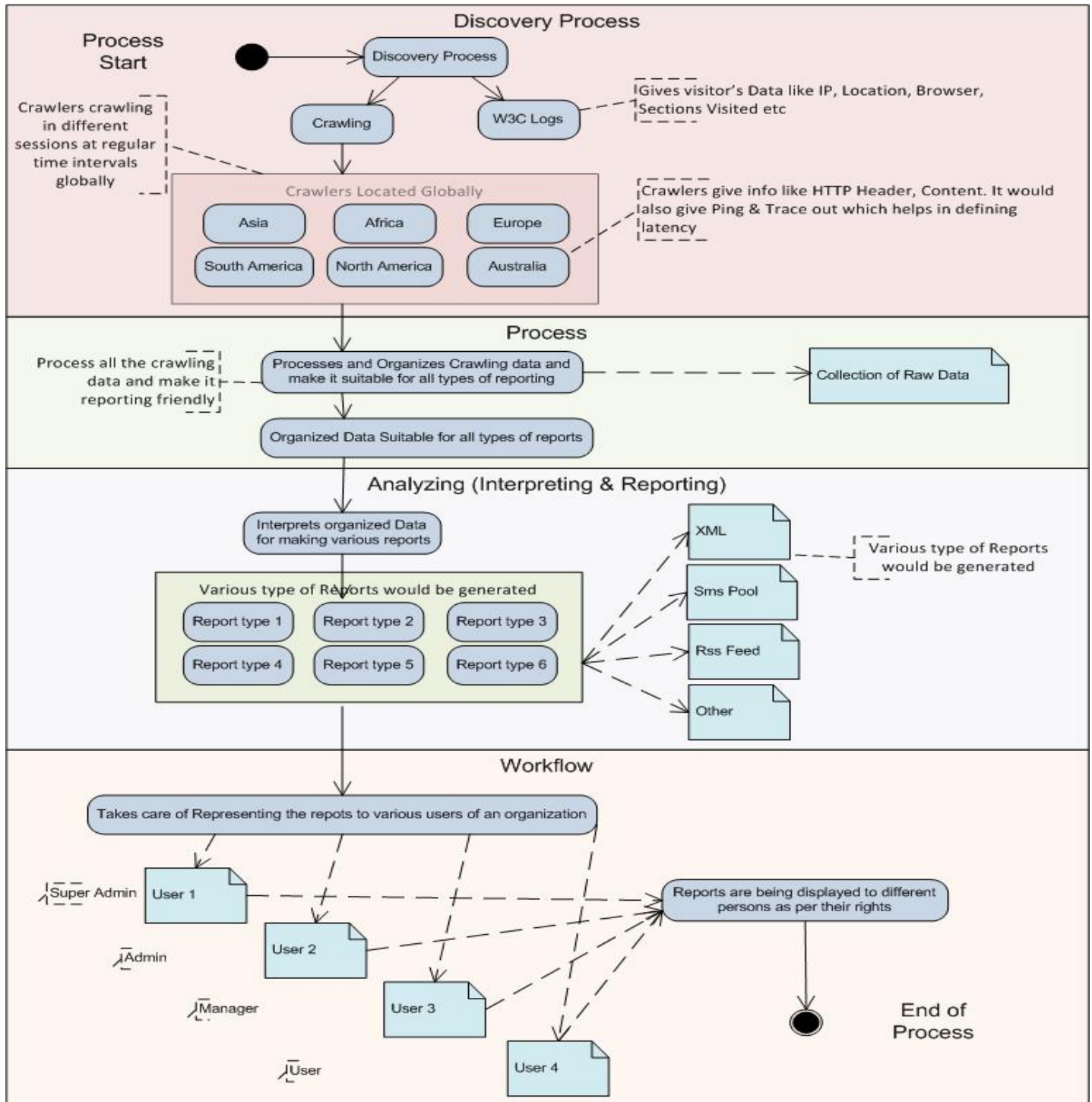
Figure 2: Main work areas

Dependencies of the tool

The application/tool will be dependent on basic infrastructural parameters like:

- Availability of internet connectivity
- Third party services like hosting, API, ASP (Application Service Provider) etc..
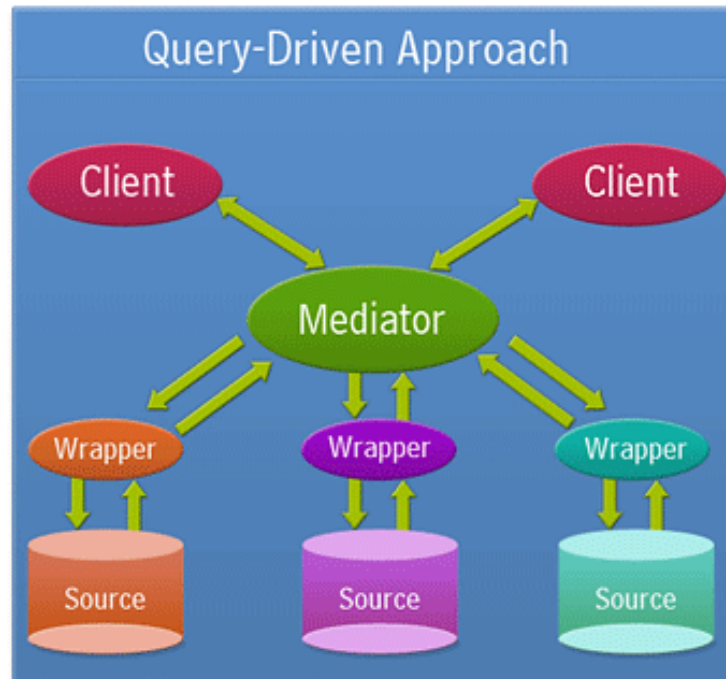
Technology

Programming Approach used

Figure 3: Query–Driven Approach

✓ A query driven approach has been used by GIL using various third party tools and services integrated to display centralized workflow based dashboard that serve as centralized repository of the information and data that you can easily retrieved when you need.

✓ This ensures that the data you are retrieving from different sources will converted to user friendly format and structure that the user can understand and digest easily.

✓ Showing information using different pictorial methods, adds more clarity and explanatory to the reports e.g. Bar Chart, Pie Chart etc.
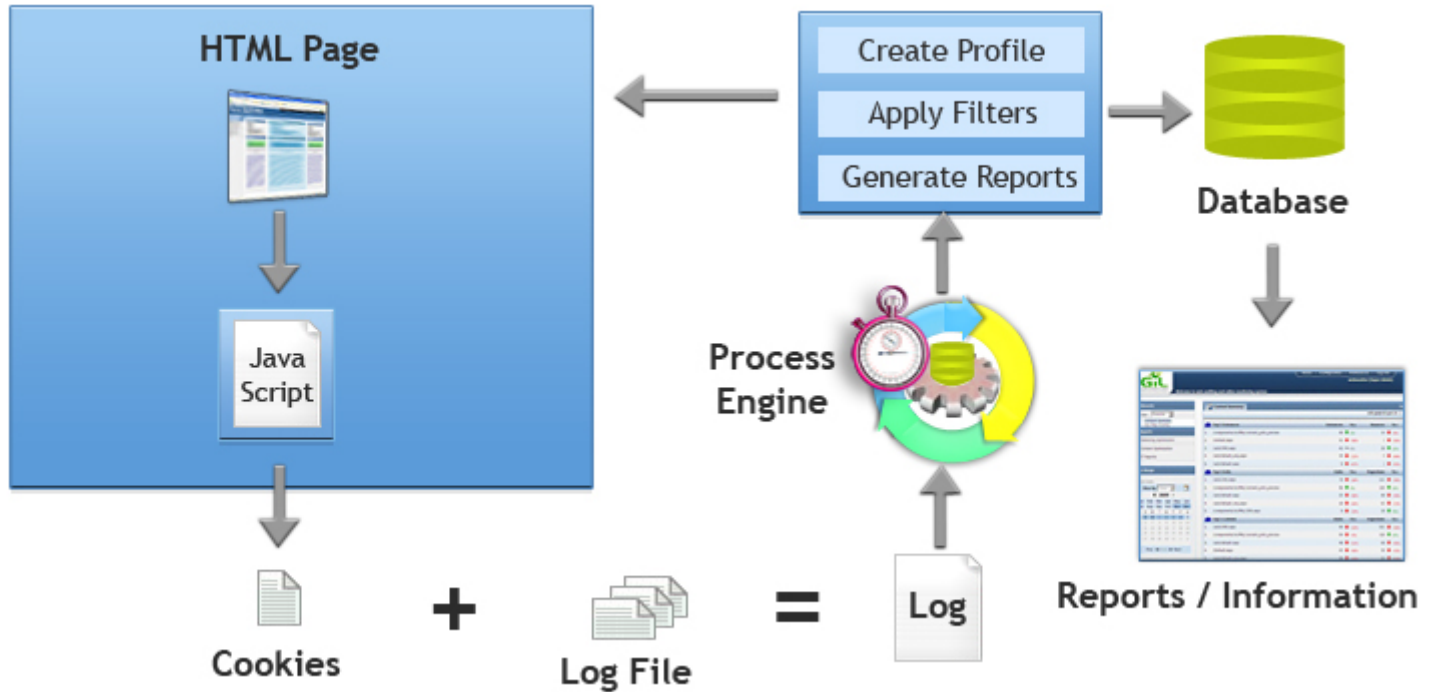
- ## Working methodology and process flow

Figure 4: Process flow

- ✓ Website User creates the profile to monitor and track the activates on the website and configure the scheduler.
- ✓ The different logs on the website servers are processed and analyze by the GIL Monitoring Tool to retrieve the required data and store them to Database.
- ✓ The data stored in database now converted to information and presented to the user in a graphical or tabular manner depending on type of the information and contents.

- ## Tools & Technology

- ✓ Internet Explorer 7.0 or later and supports other browsers
- ✓ Internet Information Server(IIS) 6.0
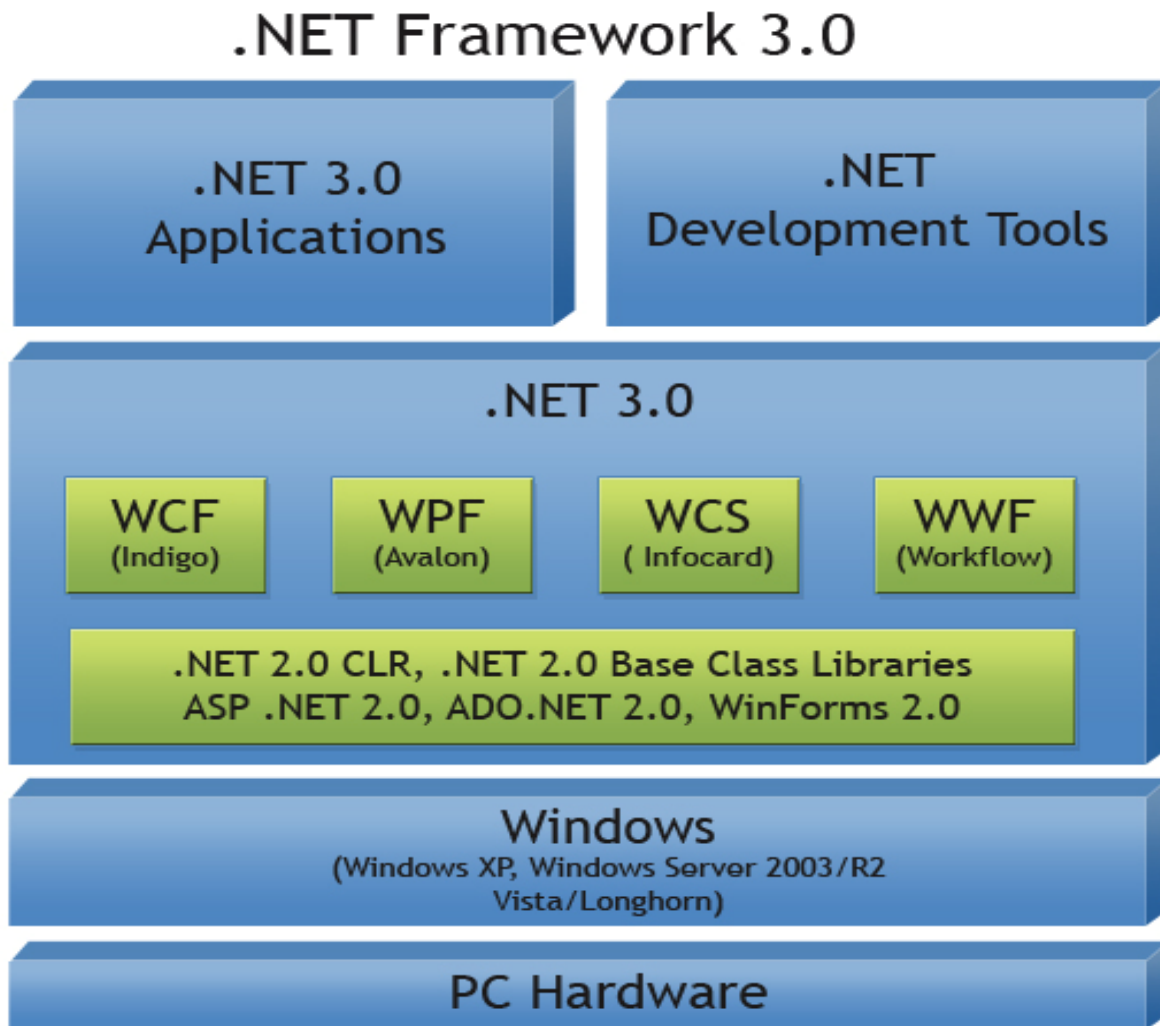- ✓ DOT.NET framework 3.0
- ✓ MS SQL 2005

- **DOT.NET stack**

.NET Framework 3.0

| .NET 3.0 Applications | .NET Development Tools |

.NET 3.0

| WCF (Indigo) | WPF (Avalon) | WCS (Infocard) | WWF (Workflow) |

.NET 2.0 CLR, .NET 2.0 Base Class Libraries
ASP .NET 2.0, ADO.NET 2.0, WinForms 2.0

Windows
(Windows XP, Windows Server 2003/R2
Vista/Longhorn)

PC Hardware

Figure 5: DOT.NET Stack

Types of Reports

Reports available in GIL Web Monitoring Tool helps you and your department track and audit website on demand and instantly. This comprehensive solution covers basic reports as well as very advance server side and site statistics report which may be understood by technical staff. However this tool also provides some very useful information to your department by providing essential reports such as when the website was last updated, which are the last updated pages automatically. More over this tool also provides you reports such as who visited the site in aggregated manner

from which country and referrals. This document provides you list of reports available in to this system.

Few very useful reports from GIL Web Monitoring Tool are highlighted below:

Website Updated Report

This report shows how often is your website updated, when it is last updated, aging, last modified, Size Occupied etc.

Who am I?

This report shows websites geographical information like domain, IP address, region, and city from available pre-configured IP Range tables.

Content Summary

This report shows top five pages of site entrances, bounce rates, exits, and how many pages views have increased or decreased from a previous date range to the current date range.

Geo Map Overlay

This report represents the visitor geo location in graphical manner on the world map.

Defined Funnel Navigation

This report represent the step of visitors comes in websites and also show links, how many visitors are came in our website.

Entrance Bounce Rates

This report represents entrance bounce rate means how many visitors leave after viewing their first page. This report lists the top entrance pages on which visitors land and their respective number of Bounces and Bounce Rates.

Goal Tracking

This report represent Goal tracking of your website means a graph (one for each goal) indicating the number of goal conversions over time as per defined goal.

Web Design Parameters

This report show popularity or viewed our website in browsers, you can see browsers wise, platform wise, Connection type wise visits for your profile.

Unique Visitor Tracking

This report shows the number of visits, the number of page views, and the average page views per visit (P/Visit) over time during the date range.

Pages & Files

This report shows top files & folders accessed or downloaded over time, successful and unsuccessful visit bifurcations and page type wise bifurcation of visits.

Domains and User

This report shows Top domain (website URL) and IP visits by visitors.

e-Gov News

Manthan Award 2009

Conceived of six years ago by the New Delhi-based Digital Empowerment Foundation (DEF), the awards recognize South Asian projects that are striving to fuel development through digital inclusion across a variety of sectors, such as health, education, business, rural development, environment and culture.

The Award ceremony was held on Dec 18-19, 2009 at NCUI Complex, August Kranti Marg, New Delhi within the larger framework of the Manthan Award South Asia on best digital innovations and applications for development. The South Asia conclave culminated in the 2009 edition of the Manthan Award South Asia felicitation of winners in 13 categories of digital innovations. This year's event featured 400 projects from eight South Asian countries, including Sri Lanka, Bangladesh and Afghanistan.

The Gujarat Common Entrance Test Gujarat Common Entrance Test, GCET 2009 is the Entrance Test conducted by Gujarat Technological University (GTU) for admissions to Masters of Business Administration (MBA) and Masters of Computer Application (MCA) courses in all affiliated Institutions throughout Gujarat wins the Manthan Award South Asia in categories of Chairman's Distinction.

This project serves the needs of the University in automating the examination delivery process and ensuring quicker turnaround time for creating content, publishing question papers, evaluating candidate responses, and announcing results. This project also provides a fully technology based solution for student counselling through online allocation of college seats.

The Gujarat Common Test (GCET) 2009 was the first online examination conducted by any State Government in India for admissions to the professional courses. This project serves the need of candidates seeking admission through the GCET entrance exam, by providing a unique student experience in test taking, by ensuring a transparent testing & evaluation process. The online counselling saves the candidates (and in many cases their parents) the hassle of travel to a central city for seat allocation. All the procedures were finished in a 45 day period i.e. from 14 May '09m to 10 July '09. It served 22,797 students and saved approximately 205 million rupees and 27,35,640 man hours for the Gujarat Technological University.

Web Corner

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http://web.gujaratinformatics.com

Manthan Award

http://www.manthanaward.org

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