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RESEARCH ARTICLE

PMO DASHBOARD AND REQUIREMENT METRICS AUTOMATION

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ABSTRACT

In this paper, our aim is to come up with a platform which will help in reducing the time and cost for retrieving the information. Here we describe the implementation of the dashboard to achieve the same using SharePoint Technology. Dashboard is a site presenting the most significant information on a single page. Provide interactive summary of a management report, Consolidates, Aggregates, and Arranges Measurements in a visual representation on a single screen and acts as a one stop reference. The design of the Dashboard comprises of many web-parts and it is chosen to support and represent appropriate product activities. Through this we can get information from various sources and build dashboard which is useful for organizations across GEO's. Automation is done in such a way that the Dashboard contains the updated/current information always.

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INTRODUCTION

SharePoint is a web application platform created by Microsoft. It is considered to be one of the most productive frameworks created by Microsoft in the last decade. It is used to create dashboards to store all the relevant information within a single page. It provides a central storage and collaboration space for documents, information and ideas. SharePoint can also be called as a tool which enables users to collaborate on documents with each other, tag and rate content, self-publish, track group projects, and even develop their own productivity solutions.

A SharePoint intranet portal is a way to centralize access to enterprise information and applications on a corporate network. This has organizational benefits such as increased employee engagement, centralizing process management, reducing new staff on-boarding costs, and providing the means to capture and share knowledge. Microsoft's SharePoint 2010 marketing refers to the "SharePoint Wheel" to describe what SharePoint's tools can facilitate inside organizations. It has six outcomes:

- **Sites**: A site is a contextual work environment. Once it is configured, sites can be created without any requirement for specialized knowledge. A context for a site may be organization-wide, or it may be specific to an individual department or team.
- **Communities**: It is a place where communication between two teams and understanding happens. Communities can occur around any context, and will typically develop around either shared knowledge, or shared activities (such as collaboration).
- **Content**: SharePoint provides management of documents and work items that need to be stored, collaborated, managed, archived, traced or restored - with relevant compliance or governance policies.
- **Search**: Look for relevant communities, people, content or sites: search is based on keywords, refinement, and content analysis.
- **Insights**: Information from any part of the organization can be surfaced inside useful contexts, providing information that can improve effectiveness.
- **Composites**: SharePoint enables no-code integration of data, documents and processes to provide composite application.

Problem Definition

In present industry, collaboration between team members plays a vital role for the organization success. People spend effort/time to find the required project/product information for their day to day execution; they use communication channels like calling each other or E-mails etc. This consumes time for everyone in the team and is prone to security issues because the chance of information getting intruded is more. So, the demand to have one stop share point where all project information is

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accessible, need a certain space where the teams can collaborate, share project information without any external disturbances.

Proposed System

Various techniques are available to get the information from different places and deploy it to the dashboard. In this proposed system we aim at delivering all the relevant information to the dashboard within a single shot and with minimal clicks. Thus, the goal of the information architecture (IA) is "Visibility in one shot". The Architecture for the Dashboard includes of Browser, Web-Parts, Excel, Tableau, and WSS.

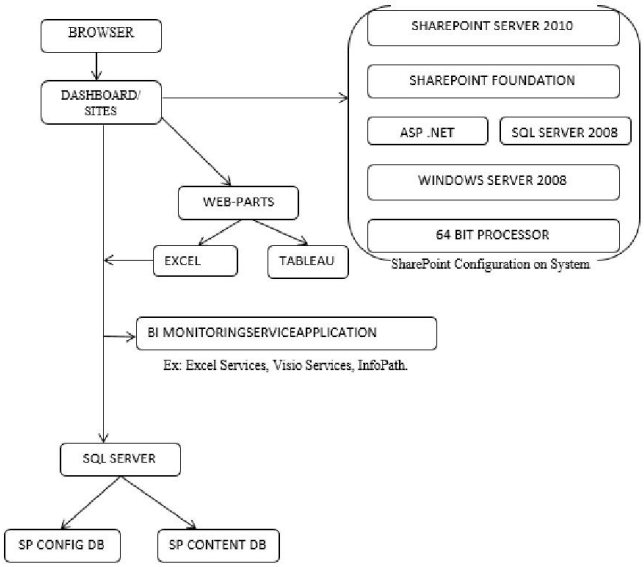

Fig. 1. Architecture

The above diagram explains the architecture of the proposed system. Let us go in detail about each modules and what is the role of it:

Browser

Microsoft SharePoint is a browser-based collaboration and document management platform from Microsoft. So the role of browser is to request the server to get the data from the database.

Site

A SharePoint Site is a collection of pages, libraries, and lists configured for the purpose of achieving an express goal. A site may contain sub-sites, and those sites may contain further sub-sites. Typically, sites need to be created from scratch, but sites can also be created according to pre-defined templates that provide packaged functionality. Examples of Site templates in SharePoint include: Blogs, My Sites, collaboration (team) sites, document workspaces, group work sites, and meeting workspaces. Sites have navigation, themes/branding, custom permissions, workflows, and have the ability to be configured or customized in a number of ways.

In order to achieve a greater degree of maintainability, sites typically inherit site-level settings from their parent sites.

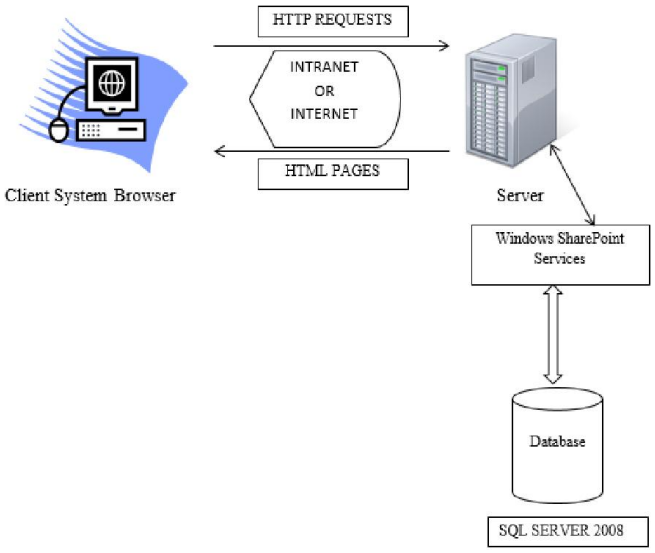

Fig. 2. SharePoint Service Architecture

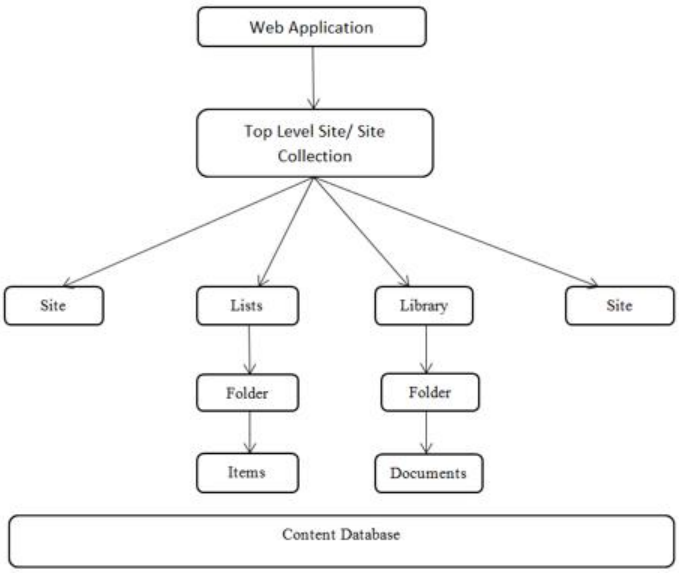

Fig. 3. Site Structure

Web-Parts

Web-Parts are nothing but a customizable window which enables to view the content within the web-part and differentiate between other web-parts data. Using this web-part we can get the data from different sources and place it in a dashboard/site. It can be customized according to our needs. SharePoint provides a wide variety of web-parts like libraries, lists, content editor web-part, Image viewer etc. We can create our own web-part using .Net technology and deploy it to the server and we can use it for our dashboard. Here, we use web-parts to display the content from other sources like Excel, Tableau.

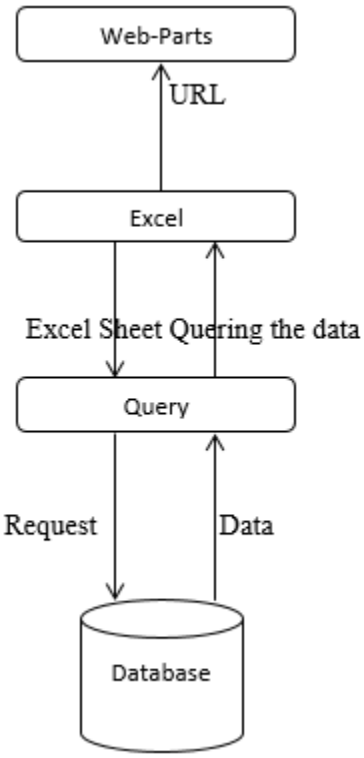

Fig. 4. Excel Data to Web-Part

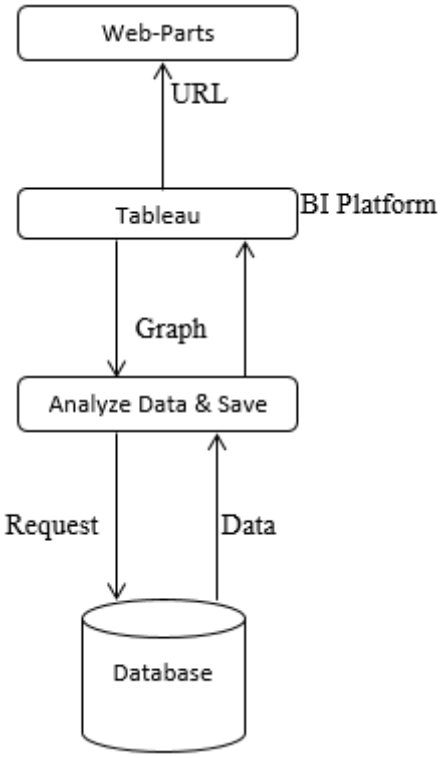

Fig. 6. Tableau Data to Web-Part

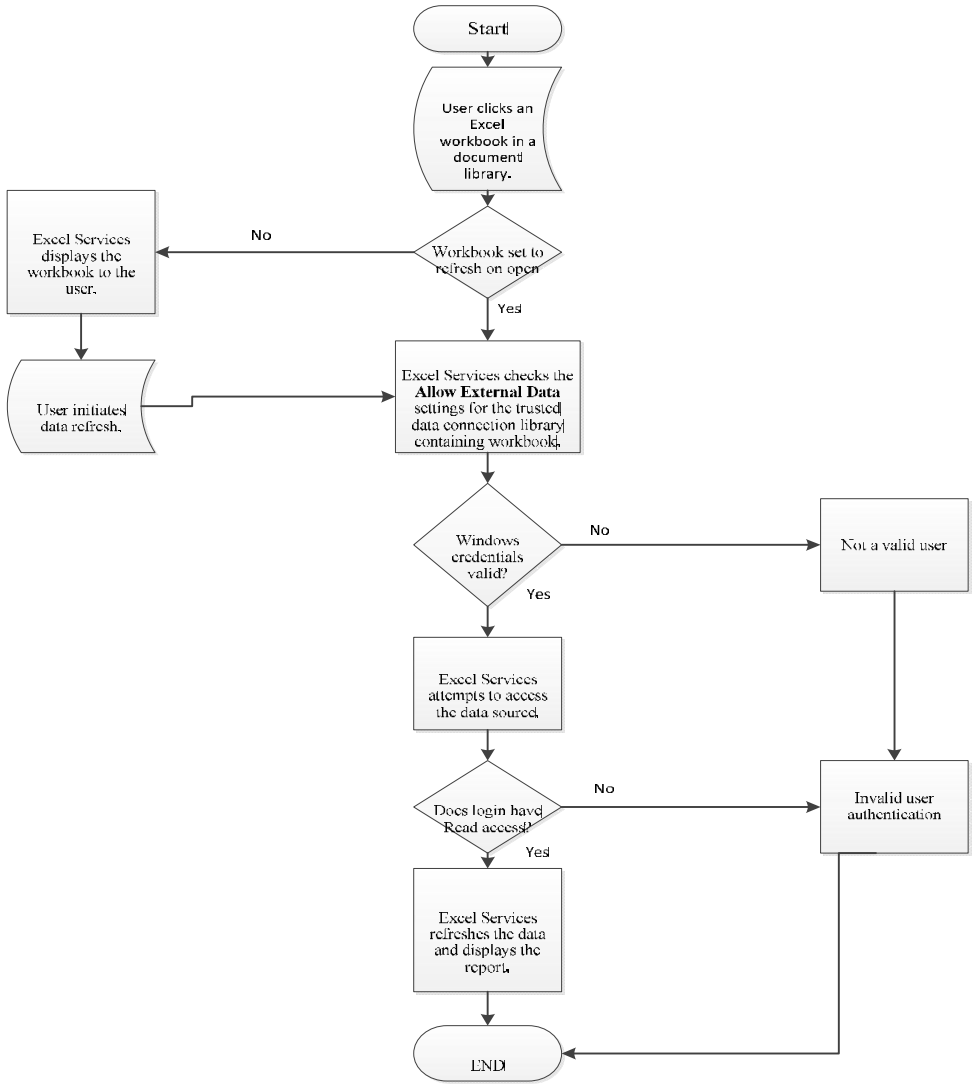

Fig. 5. Excel Automation Flow Chart

Excel Automation

Here we automate the process to get the information from the Database using one of the Office applications namely Excel**.** When accessing external data from a supported Office client application, two systems are involved: the client computer of the logged-on user and the external server. This model is supported when a user interacts with external data by using Excel 2010. Excel provides the feature to retrieve the data through query. As said above, the authentication of the user takes place in two ways, Windows Authentication and SQL Server access permissions. Once the credentials holds good, data is fetched from the SQL Server and thus it is automated in such a way that whenever a user opens the workbook, it gets refreshed before opening and displays the latest information.

The detailed process is explained in Flow Chart

Tableau

Tableau is external software which is a Business Intelligence platform which is mainly used to indicate the Indicators. Using this Software we can create, transform dense data and complex spreadsheets into easy to understand and in graphical form which is an indicator. Here, we query the data from the database, save it and pass an URL to the web-part so that we can deploy it to the dashboard. Thus the web-part plays a vital role in displaying the information.

Results and Analysis

The current proposed methodology, for creating dashboard and automating the process of information retrieval from different sources is applied and automated to get the current information. The current method for creating Dashboard using SharePoint has many pros when compared with the other traditional methods. The following are the pros for the current methodology:

- The human effort is reduced since the process is highly automated when compared to other methodologies of information exchange.
- The technique used to get information is efficient.
- The time required for obtaining the data using the current technology is less when compared to traditional methods.
- Providing improved document management and collaboration facilities.
- Easy text editor ribbon available just like Microsoft Word to customize the data.
- Using SharePoint Designer it is easy to customize the site and design it according to the requirements.

Conclusion

The proposed approach of automating the requirements metric aims at retrieving the information within a single-shot is more efficient than other methods. This specification level being the initial stages of the design development, extracting information helps in getting very recent and updated data which is very useful in the information exchange and development of products in organizations. This saves the time in collecting information related to a product and thus increases the production rate when compared to traditional methods like e-mails, phone calls, meetings etc. Also reduces the human effort and costs to the product organization. Thus, the goal "Visibility in one shot" of the information is achieved.

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