

Intranet Design Strategies

D. Rohith Roshan, K. Subba Rao

Department of Computer Science and Engineering, KL University

Article Info

Article history:

Received Nov 3, 2015

Revised Dec 24, 2015

Accepted Jan 7, 2016

Keyword:

Communication
Design Strategies
Intranet
Knowledge

ABSTRACT

The intranets have been deployed extensively in large and small-scale organizations. It has grown rapidly by offering features like collaborative communication channels, easing the business processes etc. Typically organizations faced difficulties but they are prevalent while implementation. But the organizations lack clear strategies in designing intranet. It leads to loss on investment, time and productivity, a complete intranet failure. Previous studies mainly focused on management, security and usage etc. This paper presents 9 design strategies for intranet addressing system oriented plan that can be applied in real-time to achieve improvement in organizational performance.

Copyright © 2016 Institute of Advanced Engineering and Science.
All rights reserved.

Corresponding Author:

K. Subba Rao,
Department of Computer Science and Engineering,
KL University,
Green Fields, Vaddeswaram, Guntur, Andhra Pradesh 522502.
Email: subbarao_cse@kluniversity.in

1. INTRODUCTION

An intranet is a network which is limited to its organization providing collaborative communication to the employees that are located in different geographical locations [1]. Intranets include E-mail, CMS (Content Management System), Calendars, Project Management etc. With extensive benefits of the intranet, organizations are showing interest in implementing intranet. For ex: knowledge governance with intranet will provide great benefits to an organization [2]. Benefits of intranet include efficient, cost-effective, stability, flexibility, productivity and many more.

As organizations came to know its value, the intranets consistently develop from a communication tool and resource sharing into new collaborative workplace areas. A conceptual model [3] has identified the effect of collaborative workplaces and suggested that intranet usage is highly driven by organizational culture, as well as by perspective towards blogging.

From communication and information perspective, an intranet is productive in socialization and finding information. Likewise, communication and information are integral to one another with respect to socializing newcomers. Developing a great intranet framework will enhance socialization in newcomers faster and better. In the information point of view, newcomers are slow in obtaining information from intranet but in communication point of view they are effective in finding information from intranet [4].

An intranet is an information system that utilizes internet technology and firewalls to provide expandability, security, and openness. Internet technology concentrates on security issues in connections between intranet and the internet. It is hard to compare and handle the network connection between intranet and internet. Furthermore, there is inadequate technical support for intranet security. Therefore, intranet security is a critical issue. Besides requirements for intranet and internet security are dissimilar. The internet mainly concerns about secure transmission of information between systems. While, intranet security limits within the system inside organization [5].

Many times intranets are typically large information systems and they are meant to evolve which makes it hard to design as flexible system that can handle changes [6]. For this aspect Agile Software Development is the best to implement it. Incremental change is the main idea of agile development. For ex: Develop a small intranet with few requirements and take employees feedback, make modifications according to the feedback and then move to other requirements. Like this incremental way by involving users in designing can make a better intranet.

Since the viability of information systems relies upon its user acceptance, various studies have analyzed the elements that influence user acceptance. Failures and loss of revenue in the intranet is often accredited to employees who won't accept information systems [7]. And also the external factors [8] include task interdependence, task equivocality, and web experience affect the perceived usefulness, perceived ease of use and usage of intranet.

A problem with the intranet is to make sure that employees perceive a way to get access to information they want for better performance. The intranet will be more powerful if it is designed as an entry portal for daily business activities of an organization. For this purpose, intranets should provide information like rules, regulations, demos, etc. So, an intranet architecture should be simple such that an employee can find the right information quickly. The simple architecture is to follow organizational structure. Since the employees know the structure eventually they perform well [9].

The key aspects for intranet's success include content, management and technical infrastructure [1]. Even though there are several successful stories, many users are baffled and irritated with the intranet for the profits they never get. With the extensive use of intranet, quality management is required. Efficiency, functionality, and reliability [10] are the key factors along with suitability, accuracy, availability, time behavior and security are need to be considered for intranet quality management.

In organizations intranet is extensively utilized as communication tool and knowledge sharing. Organizations are regularly confronted with the difficulties and assured benefits on technology, but difficulties are prevalent in implementation. Business changes, economic facts and competition pressures made departments to change into more collaborative than independent [11]. While organizations utilize information systems like intranet, employees are supposed to receive and support the technology instantly. Although issues like unstable design and insufficient groundwork has affected the intranet acceptance. Poorly designed and managed intranets damage the circulation of knowledge, creates mistrust, and have a bad customer relationship.

Unfortunately, little has been done on the design of intranet. In our study, we present 9 strategies as shown in Figure 1 for designing intranet regardless of size of the organization and which can be applied practically to achieve improvement in organizational performance.

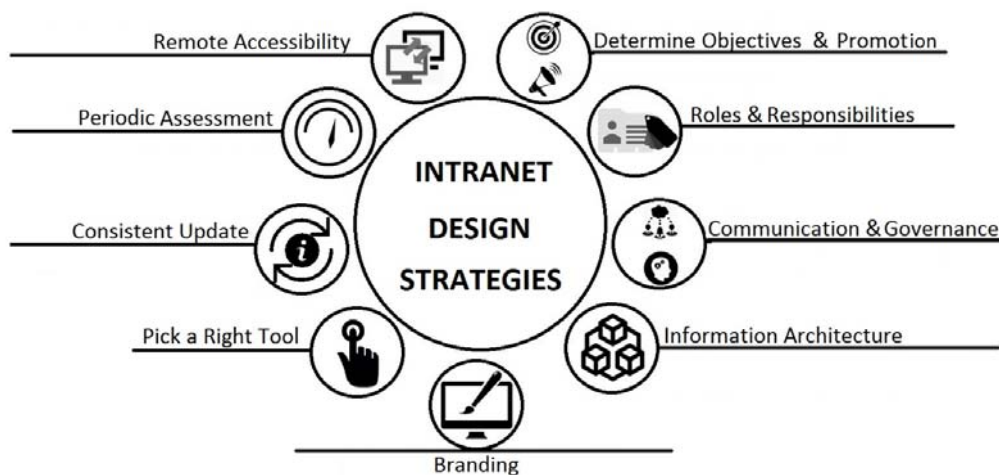


Figure 1. Intranet Design Strategies

2. INTRANET DESIGN STRATEGIES

2.1. Determine Objectives and Promotion

2.1.1. Determine Objectives

Efficient Intranets must satisfy perpetual needs of employees inside working environment. Determining objectives for the intranet assures that the implementing technology, design and governing rules reflects employees' needs. Several organizations understood the absolute and underlying benefits with

intranet and are eager to make outstanding speculations regardless of costs. The evaluation of substantial needs of the business is important before intranet design undertaking. Therefore, an effective intranet should be able to signify its support to organization towards accomplishing its objectives. Indeed, the objectives of intranet must be associated with organization objectives, in such a manner that they can help intranet's assessment. The following are the key objectives. In addition to these an organization can have other more objectives according to their business needs.

- a. Amplify Organizational Communications.
- b. Manage Teamwork.
- c. Smooth-Running of Business Operations & Processes.
- d. Yield Remarkable Money-Savings.
- e. Boost Organizational Knowledge Governance.
- f. Enhance HR Management.
- g. Revenue Growth.
- h. Integrating Business Applications.

2.1.2. Promotion

Promoting intranet is a never ending process. The promotion of intranet to staff is eternal, starting from its launch day to its ultimate retirement. Employees will endure intranet ignorance through time. Moreover, the intranet significance will disregard, or they will exploit only a minimal section of the site. For effective intranet promotion, determine its objectives sound and complete with a clear message. The intranet must be exposed at all possible levels of an organization. Make discussions with the utmost number of employees in the organization, about intranet over and over again. An extremely compelling promoting strategy is to supplant attachments in the e-mail with relevant links to intranet pages. Like this, email acts as a marketing strategy for intranet. In the whole organization, all browsers ought to have intranet as its landing page. In this manner, at every time the user opens the browser, instantly intranet is displayed. Above all this, few organizations have decided to open intranet on user login. This approach sets intranet in the sight of the user at the very beginning of each day. A lot of these organizations realized this technique as exceptional, especially when the intranet often changes its landing page like presenting quote of the day, news etc.

2.2. Roles and Responsibilities

At whatever point any new kind of application is developed, a group of experts will play a crucial role to drive things easily. Your organization intranet is a type of application and needs the expertise to help oversee it. An intranet, regardless of its well structure, can't develop or advance productively if the experts aren't there to pull it in a progressive direction. So it is necessary to get the right people with defined roles and responsibilities to drive intranet with the goal that it will continue to exist consistently even it grows over time. We categorize these roles into three types.

2.2.1. Administrative Roles

Intranet Sponsor / Owner

The intranet sponsor/owner preserves the association between intranet and organization's objectives. They will assist in both resource and financial related requirements of the intranet. They are the final decision makers in intranet related matters. Under their supervision, a committee will be in action whose sole responsibility is to pay attention to the following intranet issues:

- Form a Governing Principle.
- Determine and authorize an intranet rules, regulations, and perspective.
- Build a Business Framework for Intranet.
- Make policies for Publishing
- Budgeting Projects and Prioritization.

Intranet Manager

Intranet Manager is a person in charge for providing and organizing the intranet. His responsibilities include project management, recognizing intranet's further development opportunities etc. Likewise, he is responsible for assigning proper authorizations and makes certain that things won't go out of hand. He supervises the overall working of intranet on a daily basis, concentrates on guaranteeing that the intranet works as a productive business tool, and also ensures that everybody is following intranet rules. This job turns out to be particularly essential when you have an extensive subset of staff using the intranet daily, as the requirements for intranet evolution grows with each contribution to the virtual group.

Business Analyst

An organization commonly establishes an intranet with one principal objective of efficient daily activities to enhance the business. Hence, there should be somebody within in the bounds of the intranet who can act as a business analyst, deciding every single move which should be made in order to keep the organization winning in competition. Mostly, these people should have knowledge on how the organization works in both internal and external matters so he can identify trends and guide the organization in the best course to move further. He should be in contact with business pioneers to collect needs for new intranet projects and oversee the efforts of the development group. His key objectives are to be in communication with clients (internal employees), to comprehend intranet requirements, analyzes business cases viability for discrete projects, to design best the Knowledge Governance solutions for Organization and also to fulfill their business requirements.

2.2.2. Information Technology Roles

Architect

Unlike designer, the intranet architect is different in several ways, predominantly he is responsible for managing information. A wrongly managed information can overflow intranet, which is why somebody should tackle with this role. As an exceptional information architect, it's a trial and error task in many times. To design an absolute structure for the community, it is essential that the information architect must consider the requirements of your organization along with several other features of the intranet. In such consideration, employee's feedback can be exceptionally useful.

Designer

The attractive and modern intranets of these days were the outcomes of the intense hard work made by skilled designers. He can make an intranet to look pleasant, cool and trendy. It is frustrating and troublesome when we stranded inside the intranet, hence a designer is required who can run intranet perfectly and give a fresh look. Small scale organizations can't afford a designer, for this reason, they approach intranet vendors, who take care of everything from design to its maintenance, so you don't need to panic.

Operating Team

The Operating team is actually a group of IT (Information Technology) people. They have a crucial role in updating and maintaining the intranet. Their daily activities include allocating permissions for accessing intranet along with assuring that intranet is accessible, sound and secure. This group is in charge for all upgrading operations (which may include creating team sites, discussion boards and so many.) that are approved by intranet committee. They guarantee trouble-free day to day operations in the intranet.

2.2.3. Content Roles

Content Approver

The content approvers are people who supervise in updating their departments information which is normally information regarding business, (for example, news) or department's, (for example, occasions/events) and authorize it. They guarantee that this information/content is valid, latest and as per standards specified by the Intranet Committee.

Content Contributor

The majority of intranets permit everybody to contribute information/content to a certain level. And you can set specific checklists or limitations that should be followed while contributing the content/information. These contributors are in charge for proposing the content by following intranet rules and deal with the pages that they are responsible for.

Content Writer

Writers/Editors are the content quality controllers with respect to the standards of the organization. They guarantee that the business content/information which is delivered is in reliable inflection or using a prescribed style. These content writers make story lines on organization news or events, inventions and may be the intranet progress itself.

2.3. Communication & Governance

2.3.1. Communication

Increasing communications inside of an organization is the central idea of an intranet. Disconnected, dislocated and mislead employees can show bad performance and disengaged personnel that eventually effects your business.

An intranet is an appropriate collaborative communication tool to attract and collaborate your employees to keep them informed and effective to improve work productivity for better customer service and business operations. The design of an intranet should support productive workplaces where each employee has given value and opportunity of contributing their ideas. This can be accomplished by engaging employees with a reliable source of information and conduct discussions or debates to exchange their views and ideas for the sake of the organization. The requirements of several different internal communications, includes:

- Broadcast top-level goals, strategies and decisions.
- Disseminate compliance and administration updates.
- Sharing organization's events, news, and success stories.
- Announcing organization's innovations in services and products
- Unveiling industry updates
- Conveying operational and frontline messages

2.3.2. Governance

Knowledge Governance is an area which supports in managing to recognizing, representing, assessing, sharing and extracting the entire information in an organization. Organization is not a single thing or being, it is an association of people. Therefore, conventional strategies and procedures are essential, the wealth of an organization lies with the knowledge of people/employees working under it and how they utilize it. Knowledge Governance offers several procedures and methodologies, tending to four principal attributes:

- people
- process
- content
- technology

In organizations, the community-based collaborations should take responsibility of maintaining the knowledge concerning their domains by building a knowledge base. This helps other departments/domains/sections of business which may encounter same problem. And this base may be developed utilizing various feasible and distinctive technologies like CMS, social networks/collaborative communities and wikis. Despite technologies utilized, the environment should be developed with a perception on how knowledge can be shared and managed with respective to the requirements of the community.

2.4. Information Architecture

Information Architecture is a means which keep knowledge and information systematically such that people can simply obtain what they need. The intranet ought to be able to handle any kind of content:

- Text
- Images
- Videos
- Documents
- Forms

Never try to design your intranet excessively. This may cause over-investing in technology which may be troublesome and expensive to perform modifications within the future. Concentrate on a simple design which is flexible with the growing employee needs and changing environment. Intranets have an incredible quantity of knowledge that has to be simply accessible. Therefore, utilizing proper navigation feature is important to an efficient intranet and best client/user experience. Information Architecture is likely to incorporate the subsequent features of an intranet site:

- site taxonomy/structure
- metadata
- search schema
- navigation

These are all correlated. For example, if you are navigating inside intranet then it is accordingly handled by the site's structure. Hence, site structure mirrors your navigation as shown in Figure 2. In fact your company's intranet information architecture reflects its organization chart. An efficient Information Architecture supports the subsequent goals:

- **Feasible** : Will the IT team productively accomplish and control the information?
- **Requirements Satisfaction** : Will the information architecture meet organizational requirements, security, and privacy objectives?

- **Effective Business** : Will the architecture raise the business productivity?

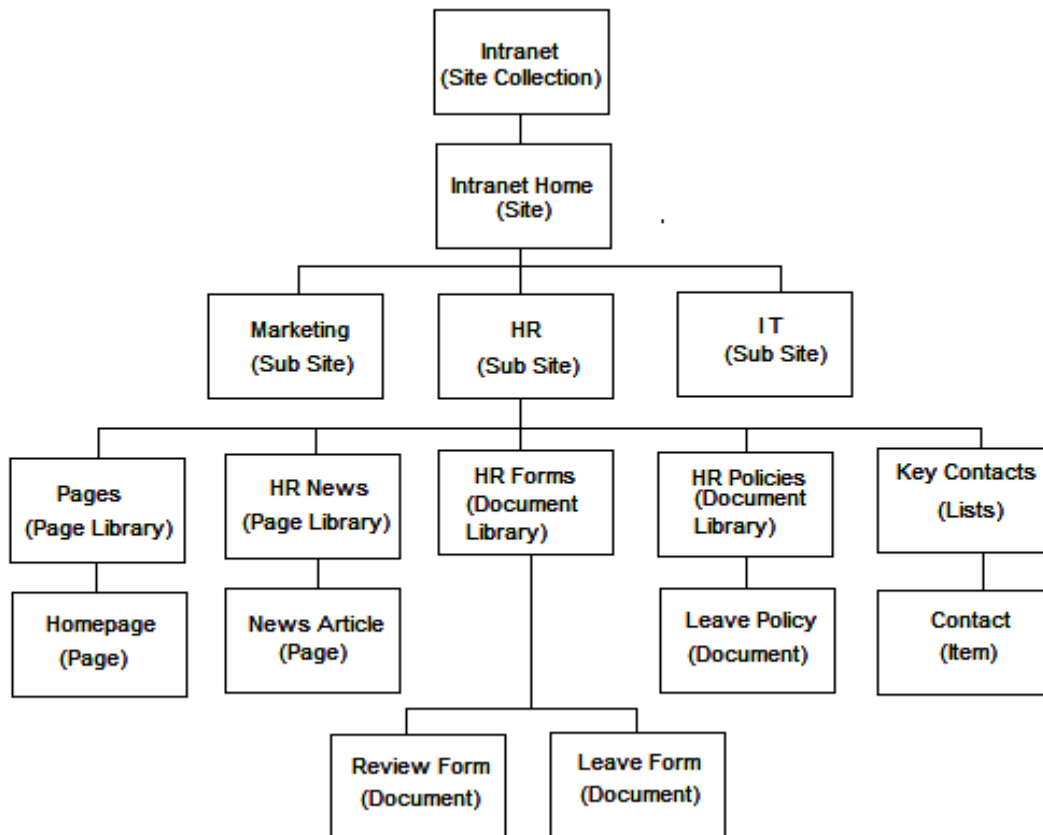


Figure 2. Intranet Site Architecture (Courtesy: <http://www.valiant-design.com/>)

2.5. Branding

The intranet should have a powerful brand, a recognition. And when we say the word Brand, it is not just a word mark, a color palette, and a symbol. It refers to the portrayal of your organization and it is important. It impacts on the performance of employees and their interest on your organization. The intranet must acquire a special identity from other organization communications such as company website. Above all this, the brand got to earn employees trust and reveal its purpose.

If it doesn't earn employee's trust and they'll just ignore it. And all your efforts and investment will be worthless. Therefore, branding is so important for an intranet. Some elements should consider while branding intranet:

- Intranet Name (simple and easily memorable).
- Go easy on colors.
- Minimize White Space.
- Convenient Navigation and Structure.
- Limited Graphics.
- Standard Design and Styles for pages.
- Use Simple Language.
- Reduce Header and Footer areas.
- Mobile Compatible.

2.6. Pick a Right Tool

The crucial decision you've got to take timely in the process of intranet development is to pick a right tool. With a wide range of intranet tools available on the market, and it is simple to pay plenty of your money and time on a tool that seems to be irrelevant for your organization. If it is relevant, does it meet your requirements? Did not determine your requirements yet? Then it's out of the question. So before selecting the right tool you should ask yourselves questions like:

- What do you actually want with your intranet?
- What issues does your intranet must tackle?

Remember that there is no such tool like perfect intranet at all. There is just an intranet which fulfills your organization requirements and which doesn't. Besides, this changes over time. Since your organization expand and reform, the intranet also need to evolve till it totally outgrows. At that point, you need an alternative. This is the inevitable lifespan of any tool/software and intranet is no exemption. By utilizing the advantages and proper components of the tool, intranet often adapted to different business processes like project management, marketing, collaboration, and development etc. Therefore choosing the right features and developing solution for certain activity is very important.

Essentially, an efficient intranet should have broad features, be simple, reliable, scalable, and attract your employees. Some of the features you should consider for selecting a right tool for your organization are:

- Content Management.
- Workflows.
- Security.
- User Permissions.
- Communication & Collaboration.
- Search
- Business Process Management.
- Reporting.
- Business Intelligence.
- Wikis.
- Forums
- E-Mail.
- Messaging.
- Surveys
- Discussion Boards.
- Versioning.
- Publishing.
- Site Templates.
- Alerts.
- RSS.
- Administration.
- Mobility.
- WYSIWYG editor.

Choosing an appropriate tool for the intranet is same as assessing any other tool/software that you use in your organization; determine the central usage of the tool, then find one that fulfill your requirements. Your organization intranet can be an effective tool for a better productive and efficient business. So be concerned with evaluating the features and uses of several intranet development tools that will escalate your returns on investment.

2.7. Consistent Update

The intranet should remain up to date consistently and productively. In case intranet overgrows and links broken, then it will be out of hand and hard to manage. At this point, the intranet will gain mistrust from employees and slowly abandoned. Therefore, the intranet must provide trusted information to its employees. To maintain employees trust the content should be:

- Productive.
- Precise.
- Complete.
- Up to date.
- Reliable.
- Understandable.
- Concise.
- Fulfill User Needs.

2.8. Periodic Assessment

It is not a good thing that you feel you've developed a right intranet so sit back and relax. You need to assess the intranet whether it has an impact on your business. Otherwise, all your effort is worthless. So you should seek answers for:

Does your intranet perform well?

How successful is your intranet in satisfying employee needs?

How well your intranet supports organization's objectives?

To get the answers assessment need to be done in the following areas:

- Usability.
- Information Architecture.
- Content.
- Design.
- Tools Used.
- Search.
- Navigation.

Extensively assessing includes:

- Ratings.
- Business Requirement Analysis.
- Employee's Average Spending Time in the intranet.
- Page Views per Employee.
- Content Views per Employee.
- Content Contribution per Employee.
- Employee's Satisfaction.
- Monitor Usage of Workflows.
- Content Shares.
- Feedbacks.
- Unique log-ins per day.
- Peak times of use.
- Intranet Speed.
- Mobile Compatibility.
- Search Functionality.
- Discussion Boards Usage. etc.

Hence, evaluation provides you the intranet usage information and assess appropriate feature in order to improve intranet participation in the organization.

2.9. Remote Accessibility

Avail remote accessibility of the intranet and corresponding resources. In several organizations, many of its employees won't work in the office. They are called mobile/field employees playing roles as:

- Site engineers/technicians.
- Sales Employees.
- Consultants.
- Workers in Factories etc.

They don't have a desktop or PC. But all of them have mobile devices in common. Provide access to important information despite location and connectivity. This will improve productivity in field employees. You should keep this in mind while designing your intranet. In fact, many of the available intranet development tools are providing this feature.

3. CONCLUSION

The intranet has grown rapidly with features like collaborative communication, integrating business processes etc. With these extensive benefits, organizations came to know its value and started implementing in a wide range. In communication and information aspects, an intranet is productive in socialization and finding information. It is an information system that utilizes internet technology. The success of intranet relies on user acceptance and also the external factors including task interdependence, task equivocality, and web experience affect the usage of an intranet. Therefore, intranet architecture should be simple such that an employee can find the right information quickly. Issues like an unstable design and insufficient groundwork have affected the intranet acceptance. Poorly designed and managed intranets damage the circulation of knowledge, creates mistrust, and have a bad customer relationship. Even though there are several successful stories, many users have lost their faith. Because, they lack better intranet design which helps to improve organizational performance.

Most of the studies have focused on knowledge management, security, quality, usage etc. But it is not sufficient for the present day needs of organizations. Since the intranets are becoming more collaborative, organizations should design intranets for long-term achievements. Most of the companies are implementing intranet without following any strategy or we can say that they are confused with numerous intranet tools available in market. There is no standard design to follow for developing intranet. Due to this organizations fail in designing a better intranet.

In this study, we present 9 design strategies for intranet which can fit for both large and small organizations. In the case of small organizations, a single person may play different roles, the intranet tool may have less features when compared to those of large organizations and remote accessibility may or may not be useful basing on the needs. We explained about the strategies in detail and how they are helpful for the organization. We conclude that for greater organization benefits these strategies must be followed while designing intranet. In this paper, our approach was to propose and speculate design strategies for the intranet. We did not endeavor to accept it here and accordingly future exploration ought to test and refine these strategies experimentally.

REFERENCES

- [1] V. S. Lai, "Intraorganizational communication with intranets," *Communications of the ACM*, vol/issue: 44(7), pp. 95-100, 2001.
- [2] M. Edenius and J. Borgerson, "To manage knowledge by intranet," *Journal of Knowledge Management*, vol/issue: 7(5), pp. 124-136, 2003.

- [3] P. Raeth and S. Smolnik, "Antecedents and consequences of corporate weblog usage in the intranet: A process perspective," *System Sciences (HICSS), 2010 43rd Hawaii International Conference on. IEEE*, 2010.
- [4] L. E. Chang and S. P. Lin, "Newcomers' Socialization by Intranet System," *Computer and Information Science (ICIS), 2011 IEEE/ACIS 10th International Conference on. IEEE*, 2011.
- [5] G. Fuxiang, *et al.*, "A Security Architecture for Intranet Based on Security Area Division," *Intelligent Information Technology and Security Informatics (IITSI), 2010 Third International Symposium on. IEEE*, 2010.
- [6] R Hall, "Agile Design on Your Intranet," <http://www.intranetconnections.com/blog/agile-design-on-your-intranet/>, 2014.
- [7] H. Benbya, *et al.*, "Corporate portal: a tool for knowledge management synchronization," *International Journal of Information Management*, vol/issue: 24(3), pp. 201-220, 2004.
- [8] S. Lee and B. G. Kim, "Factors affecting the usage of intranet: A confirmatory study," *Computers in Human Behavior*, vol/issue: 25(1), pp. 191-201, 2009.
- [9] R. Cozijn, *et al.*, "Structuring job related information on the intranet: An experimental comparison of task vs. an organization-based approach," *Journal of technical writing and communication*, vol/issue: 37(2), pp. 203-216, 2007.
- [10] Leung, Hareton KN, "Quality metrics for intranet applications," *Information & Management*, vol/issue: 38(3), pp. 137-152, 2001.
- [11] Neill, W. D. and James E. R., "Intranet portals: marketing and managing individuals' acceptance and use," *Australasian Marketing Journal (AMJ)*, vol/issue: 20(2), pp. 147-157, 2012.

BIOGRAPHIES OF AUTHORS



D. Rohith Roshan was born in Andhra Pradesh, India. He received his BCA degree from Acharya Nagarjuna University in March 2011, and his MCA degree from Jawaharlal Nehru Technological University, Kakinada in June 2014. He is currently pursuing MTech in Computer Science and Engineering at K L University, Guntur. His research interests include Software Engineering and Data Mining. This article is his first publication.

Email: rohithroshan.devu@outlook.com



K. Subba Rao received his M.Tech degree in Software Engineering from Jawaharlal Nehru Technological University, Anantapur in 2004 and PhD in Software Engineering from Acharya Nagarjuna University in May 2015. Presently, he is working as Professor in K L University, Guntur. His areas of interest are Software Engineering, Data Mining, Cloud Computing and Computer Networks. He published about 14 articles in the above area.

Emails: subbarao_cse@kluniversity.in, ksubbarao_22@yahoo.co.in