

**BHARATI VIDYAPEETH’S**

**INSTITUTE OF COMPUTER APPLICATIONS & MANAGEMENT**

(Affiliated to Guru Gobind Singh Indraprastha University,

Approved by AICTE, New Delhi)

**LINK SHARING**

**Project Synopsis  
Submitted in partial fulfillment of the requirements for the award of the degree of  
MASTER OF COMPUTER APPLICATIONS  
(M.C.A),2016-2019**

**Submitted To: Submitted By:**

Dr. Imran Khan Reshma S Mohan

(Assistant Professor) 03335304416

Section 2



**TO THE NEW**

To The New is a digital technology company providing end-to-end product development services. We leverage the power of experience design, cutting-edge engineering, and cloud to build disruptive web and mobile apps enabling digital transformation for businesses.

The company drive product engineering and digital transformation with Agile methodologies as the backbone.

The company solve complex problems using cutting edge technologies.

The company take a deep dive into various digital advances and leverage these technologies to build winning products. Work on breakthrough technologies and deliver mission critical mobile and web applications. Some of the technologies that the company have mastered include Grails, Angular.js, Node.js, and React to name a few.

To The New software product development services are designed to accelerate product development and bring business agility. The company has helped 200+ product companies transform their ideas into market realities by solving most complex engineering challenges.

LINK SHARING

**Title Of Project**  
  
**Link Sharing** A link sharing application which will be used for sharing useful links/documents.

**1) Problem Statement**  
  
The main objective of Link Sharing Web Application is to provide suitable environment and facilities to users which will be used for sharing useful links/documents amongst a group of subscribers.

Users can create new topics or subscribe to existing topics. A topic can be either private or public. A public topic is visible/open for subscription to every user. A private topic can be subscribed only through an invitation sent by an existing subscriber.

**2) Why is the particular topic chosen?**  
  
This topic is chosen to develop a link sharing application which will provide an enhanced prospective for the users to explore a unified interface for knowledge sharing. It will provide them with a common platform to share the topics of their interest and have a discussion on it.  
  
This topic also gives the opportunity for an integrated experience in solving a real life problem by applying knowledge and skills gained from various sources and getting hands on experience on various cutting edge technologies.

**3) Objective and scope of the project**  
  
The objective of this project is to develop a responsive and easy to use tool, enabling users to keep themselves updated about the topics he/she created and send invites to other users to subscribe the topics. The topics can be private as well as public. Also user should be able to keep a track of read and unread resources. User can rate a resource.   
  
**The application should provide a solution to following stories:**

1. A user should be able to login.

2. A new user should be able to register. An active valid user should be able to login with correct credentials.

3. A user should be able to reset his/her password by clicking on the forgot password link.

4. User can create a new topic and he will be automatically subscribed to it +with seriousness(SERIOUS, CASUAL, VERY\_SERIOUS) of Very Serious. The topic can be private or public. Name of the topic should be unique per user.i

5. User can subscribe to an existing public topic.

6. User can specify his/her seriousness to a particular topic.

7. Subscribed users can send invites for a public or private topic.

8. The user should be able to browse all the public topics.

9. The user should be able to add a resource to a subscribed topic.

* A resource can either be a link resource or a document resource.
* A link resource will contain a link to an external resource or even an internal resource.
* A document resource will consist of downloadable content.

10. The user cannot be deleted.

11. The user should be able to mark a resource as read/unread.

12. Only a Creator of a resource or admin can delete a resource.

13. Only a Creator of a topic or admin can delete a topic. Its resources should also be deleted irrespective of the ownership status or resources.

14. User can rate a resource.

**4) Proposed Solution**

The proposed solution aims to provide a stable and controlled environment that brings together data and introduces a controlled, flexible, and scalable solution for the provision of information transmission.

**4.1) Technologies :**

1. Java
2. Spring Boot (Java Framework)
3. Spring Security
4. Spring Data JPA
5. HTML CSS
6. Bootstrap (Front-end Framework)
7. Thymeleaf
8. Jquery
9. Javascript
10. Ajax

**4.2) Modules :**

1. User Registration
2. User Profile
3. Edit Profile
4. Home Page
5. Dashboard
6. Topic creation
7. Seach
8. Post/Resource Module
9. (Users)Admin Module

**4.3) Users**

For the purpose users are divided as:

**1. Client User**

Users who are using the services of the system. Their possible actions are

• Login to the application

• Create Topics

• Subscribe to Topics

• View search results

• Read/Rate resources

**2. Admin User**  
Users who are responsible for keeping track of services to be provided to the clients.

Their possible actions are

• View all Users Information

• Deactivate users

• Manage configuration Details

**5) Application Architecture**

A **Three Tier Layered Architecture** is used in which the concerns of the application are partitioned into stacked groups or layers. Layered architecture focuses on the grouping of related functionality within an application into distinct layers that are stacked vertically on top of each other.

**Presentation layer:** Contains the user oriented functionality responsible for managing user interaction withthe system, and consists of components that provide a common bridge into the core business logic encapsulated in the business layer.

**Business layer:** Implements the core functionality of the system, and encapsulates the relevant business logic.It consists of components, some of which may expose service interfaces that other callers can use.

**Data layer:** Provides access to data hosted within the boundaries of the system and data exposed by othernetworked systems; perhaps accessed through services. The data layer exposes generic interfaces that the components in the business layer can consume

**6) Methodology**This project uses an **Agile Methodology** of iterative development where requirements and solutions evolve through collaborationAn iterative methodology used refines the project over time, until it satisfies all of the requirements and adheres to all of the constraints. The division of the project into phases also ensures quick completion of the project. Agile web development also encourages client participation during the entire process. This ensures that the client's unique requirements on the website are catered for. The client's input is implemented every step of the way and the end product is more of what the client would want.  
 The agile web development model follows planning, requirement analysis, designing, coding, testing, and documentation developing stages parallel. Successful interaction reaches toward to successful completion of application because of customer involvement hence we never met with the condition where we have to change the product due to changes in requirements, correct decision has to be taken by keeping customers confidence and informed choice, minimizing delays of the product. All the tasks are performed at given period, with just enough.

**7) System Specifications  
  
7.1) Hardware requirements:**

Processor type : Intel Pentium-4 (or compatible)

Processor speed : 1.0 GHz or more

RAM : 1 GB or more  
  
**7.2) Software requirements:**

Platform : Web Browser supported OS

Framework : Spring Boot Framework

Database : MYSQL Ver 14.14 Distrib 5.7.25

Object Relational Mapping : Spring Data JPA

Programming Tool : IntelliJ Idea Ultimate

**8) Testing technologies to be used**Various testing technologies will be used in testing the system:

**8.1) Unit Testing:**

Individual components of each of the layers will be tested to ensure that they operate correctly.

Each of the sub layers and their components will be tested by verifying the correct access to the public interfaces of each of the components.  
  
**8.2) System Testing:**

The overall system as a whole will also be tested with which the communication interfaces between the layers will be tested.

**8.3) Black box testing:**

Black box testing is based on the software's specifications or requirements, without reference to its internal workings. It will be used to demonstrate that software functions are operational properly and output is correctly produced. It will examine the fundamental aspects of the system with little regard for the internal logical structure of the project.

**8.4) White box testing:**

White box testing requires access to the source code. Though white box testing can be performed any time in the life cycle after the code is developed, it is a good practice to perform white box testing during the unit testing phase. The internal code structure will also be tested and some static analysis tools can also be used.

**9) Value addition made by the project**The value-addition of this project is the cumulative and integrated set of functionalities that it offers to the users from all the functional areas. The application copes with the complexities of the problem statement by grouping functionalities into different areas of concern.

**10) Limitations**

Some of the limitations of this project are as follows:

* With the increase in the number of users and network traffic the application might not be as responsive as it is intended to be which can hinder the overall user experience.
* No smart app has been designed to make it accessible from hand held devices.

**11) Conclusion**  
This project aims to develop an online portal which will provide a common stage for the users from different domains having same interests to interact and share the knowledge they have. The users from all the divisions would be able to create topics and keep themselves updated about the topics they have subscribed. They can also rate resources shared by other users.

**12) Future Scope**

There is always a room for improvement in any software, however efficient the system may be.

The important thing is that the system should be flexible enough for future modifications. Every effort has been made to make it user friendly.

The future scope of this web portal would be to have **extensions on mobile devices** as a portable application on their personal smart devices.

**13) References and Bibliography  
  
Books Referenced:**

* scjp-sun-certified-programmer-for-java- by Kathy Sierra and Bert Bates
* Head First Servlets & JSP\_ Passing the Sun Certified Web Component Developer Exam (2nd ed.) by Basham, Sierra & Bates
* Coding Guideline by TTN mentor
* Slides provided By TTN mentor

**Online References:**

* <http://www.springboottutorial.com/>
* <http://www.javabeginner.com/learn-java/introduction-to-java-programming>
* <http://www.roseindia.net/mysql/>
* <http://www.roseindia.net/javascript/>
* http://www.roseindia.net/jquery/
* http://udemy.com/
* http://www.w3schools.com/