**Innovature Software Labs P Ltd**

**Software Design Document of**

**Wiki Forum**

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# Change Log

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# Introduction

## Purpose

The purpose of this document is to present a description on the different design aspects for the Wiki-forum Project. This document will be the main input for the development phase of this project.

## Scope

This document defines the detailed software design of the architecture and implementation of web application for organization users

## Definitions, Acronyms & Abbreviations

| Definition/ Acronyms | Details |
| --- | --- |
| Wiki-Forum | Wiki-Forum is a question and answer website for professional and enthusiast programmers |
| API | Application Program Interface |

**Table 1: Definition, Acronym, Abbreviation**

# Document Overview

Sections 2 – 4 contain discussions on different design aspects of the project, section 5–7 contain application, web and API design, and section 8 contains the Component design references.

# System Overview

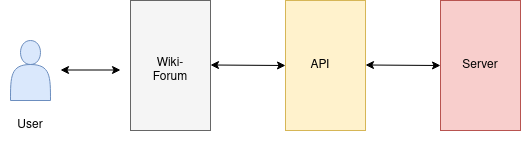
Wiki-forum is an application similar to stackoverflow, used to post questions and answers. Individuals can sign in to the system using their google account, add their skillful topic areas as tags. Only signed up users can use the system to ask questions or answer to questions posted by other users.

Users can either use existing tags while posting questions or if a tag is not already available, the user can add the tag while adding the question which can be used for future too. Questions can be answered by other users with similar interests and help each other or even can be helpful when learning a new topic.

A reputation based reward system is used and is intended for active interaction of users with the application. This is done by reward points to users for activities such as, Posting questions, for answers marked as verified by the user who posted the question and for upvotes given to answers by any users.

The Wiki forum system consists of User web application and web API services.

Web API service provides REST API’s to the User web application that is used to manage the wikiforum, user data storage.



# Design Overview

## Application Platform

| Wiki-Forum | |
| --- | --- |
| Application Type | Web Application |
| Platform |  |
| Development Language | Vuejs,Php |
| Database | MySQL |

**Table 2: Application Platform**

## Assumptions

The Wiki-forum web application will be released through h[ttps://wikiforum.innovaturelabs.com/](https://wikiforum.innovaturelabs.com/) and be supported in Mozilla Firefox and Google Chrome.

## Feature Overview

The Wiki-forum application allows users to solve their queries easily by users with similar interests. The user can login to the system using their google account(sign up with G-mail).The application main functionalities included as follows.

| Functions | Description |
| --- | --- |
| Login | sign up with G-mail |
| Select Tags | Select tags according to user interests |
| User Dashboard | 1. User can view questions based on user tags  2. User can answer the questions by clicking corresponding question  3. Users can ask questions with respect to various tags.Also he could add additional tags which are currently unavailable. |
| Search | There are three module based searchings   1. Search tags 2. Search users 3. Search by question keywords |
| Notifications | Wiki-forum will send notifications at particular scenarios which include when some other users do responses like answering questions which were posted by the current user as well as upvoting current user’s answers. |
| View Users | The User can view all the users registered in the web application and view their points. |
| Profile | User Profiles include various functionalities like view/edit questions posted by the current user,view user details,edit name,edit tags which were selected during user creation,view user points as well as badges awarded. |

Wiki Forum Application allows users to create a network of users with similar interests by making it possible to mark their skillful topics. Users can ask questions and answer questions posted by other users. Only signed in users can access features of this application and this can be done with their google account.

# Application Design

## User Authentication

This section indicates the login form for all the users. For accessing the application features,, the user must login to the application.

The following table will describe the login function.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Google Login | Button | users sign up using google accounts. |

## User Information Registration

Registration of user information is going through the following steps:

### User personal details

After successfully logged in, users navigate to a page to add tags based on their interest.

| **Item** | **Type** | **Validation** | **Description** |
| --- | --- | --- | --- |
| tags | dropdown | required | Select the tag based on interest. |

### User Authentication

SIGN IN

Following authentication is used for Sign in

1. Social Sign In (Google)

Social Login

For social login we use Google as login providers.

* Google

Google sign in package is used to integrate google sign in to the app.

<https://laravel.com/docs/9.x/socialite>

## Wiki-Forum Home page

In the home page, Questions posted by other users are displayed. Questions are based on the tags selected by the signed in user. Main items displayed in the home page are:

### Questions

Questions are displayed in the home page on the basis of tags selected by the user while signing in to the application for the first time. Questions are listed in the order of most interested to least interested.

### Sidebar

Sidebar consist of the following items,

1. Home - Button to navigate to list all the questions according to user wished tags
2. Profile - Button to navigate to user profile.
3. Tags - Button to navigate to show all tags in the application.
4. Users - Button to navigate to the list of all registered users.
5. Ask Question - Button to ask question.
6. Logout - Button to logout from the site.

### Popular Users

Users can view top 4 users who have higher points.

### Popular Tags

Users can view the top 8 tags which are used by most of the questions..

## profile

### View User Details

User can view their basic informations such as name and email

| **Item** | **Type** | **Validation** | **Description** |
| --- | --- | --- | --- |
| Name | Text | minimum 1 character and maximum 50 characters | View full name of the user, who is creating the account. Text format |
| email | Text | minimum 1 character and maximum 50 characters | view registered email address of the user. |
| points | Text |  | View points received by the current user. |
| Number of questions posted | Text |  | Show total number of questions posted by the current user. |

### Edit Profile

While clicking on the Edit profile button, the application will be redirected to the user information edit screen. This page will be able to view and edit user information.

| **Item** | **Type** | **Validation** | **Description** |
| --- | --- | --- | --- |
| Name | Textbox | minimum 1 character and maximum 50 characters | Enter the full name of the user, who is creating the account. Text format |

### View Questions

While clicking on the view questions, the application will be redirected to the users questions. This page will be able to view the question added by the current user.

| **Item** | **Description** |
| --- | --- |
| Title | Title of the question |
| Description | show the questions added by the current user. |

### Edit Tag

While clicking on the Edit tag button, users can change the tag.

| **Item** | **Type** | **Validation** | **Description** |
| --- | --- | --- | --- |
| Tag name | Textbox | minimum 1 character and maximum 50 characters | Enter the tag name in text format |

### Edit Question

While clicking on the click here button, the application will be redirected to the view question page. This page will be able to view and edit question.

### 

| **Item** | **Type** | **Description** | **Required** |
| --- | --- | --- | --- |
| Title | Text | Title of the question | yes |
| Description | Text | Question which the user wish to share with others | yes |
| Tag | Dropdown | List of tags . | yes |

### Display points and badges

Users can view their points they achieved through their responses.Also their badges based on their points.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Points | Text | show user's points based on their responses . |
| badge | icon | Show user badge based on the points they have. |

Badges

Badges are earned with points earned by the user for posting questions, when your answer is verified by the user who posted the question and for upvotes given to the answer.

+10 points for each verified answer.

+5 points for each question posted.

+5 points for each upvote received for your answer.

Different levels of badges are,

Bronze Badge - Bronze will be awarded after scoring 100 points.

Silver Badge - Silver will be awarded after scoring 1000 points.

Gold Badge - Gold will be awarded after scoring 5000 points.

## Search

This section includes searching for registered users,questions in the Wiki-Forum system.

### User Search

According to the search applied, the list of Users can be displayed.The search result contains following details of each user.

| **Item** | **Description** |
| --- | --- |
| User Name | Name of the user |
| Points | Points acquired by the user |

### Question Search

According to the search applied, the list of Questions can be displayed

| **Item** | **Description** |
| --- | --- |
| Question | Questions posted by other users which match the search keyword. |

### Search Tags

Users can search tags whether it is available or not.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Tag | Textbox | Search tags |

## App notifications

Wiki-Forum will send certain notifications to the application in certain scenarios. Following are the notification scenarios.

* Upvotes based on answers posted by users.
* Anybody answered the questions posted by the user.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| notification | Textbox | Notifications based on the upvotes on answers by the user and responds to the answered question posted by the user. |

## User Dashboard

### View Questions

The user can view questions in the dashboard according to the tags selected by the user.

### Answer Questions

The user can answer questions that he/she wishes.Code of conduct warning is displayed while posting an answer if the question is asked by a newcomer.

| **Item** | **Type** | **Description** | **Required** |
| --- | --- | --- | --- |
| answer | Textbox | Answer to the Question. | yes |

### Add Questions

The user can add questions with respect to various tags.The user can add up to 3 tags for each question.

| **Item** | **Type** | **Description** | **Required** |
| --- | --- | --- | --- |
| Title | Text | Title of the question | yes |
| Description | Text | Question which the user wish to share with others | yes |
| Tag | Dropdown | List of tags . | yes |
| Submit | Button | Submit Details. | Yes |

### Add Tag

If the required tag is not in the list shown, the user can add the tag into the database.

| **Item** | **Type** | **Description** | **Required** |
| --- | --- | --- | --- |
| Tag | Textbox | Users can add new tags if necessary. | yes |
| Submit | Button | Submit Tag. |  |
| close | Button | Close |  |

### Add Upvote/Downvote

If the user found the answer helpful, the user is able to give an upvote to the user who has answered the question.Otherwise user can downvote.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Upvote | Button | Users can upvote the answer if it is useful. |
| Downvote | Button | Users can downvote the answer if it is not useful. |

### Get Upvote/Downvote Count

Users can view the count of upvotes given for a particular answer.

| **Item** | **Description** |
| --- | --- |
| Upvotes | Users can view the upvotes that are given by other users if the answer is useful for them. |
| Downvote | Users can view the downvotes that are given by other users if the answer is not useful for them. |

### Add Comment

Users can add comments on questions as well as answers.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Comment | Text | Users can share comments about a question or answer. |
| Add comment | Button | Submit comment |
| Close | Button |  |

### Edit Comment

Users can edit comments on questions as well as answers.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Comment | Text | Users can edit comments about a question or answer. |
| Save | Button | Submit comment |
| Close | Button |  |

### View Comment

Users can view comments on questions as well as answers.

| **Item** | **Description** |
| --- | --- |
| Comment | Users can view comments about a question or answer. |

### Delete Comment

Users can delete their comments on questions as well as answers.

| **Item** | **Type** | **Description** |
| --- | --- | --- |
| Delete | Button | Users can delete comments about a question or answer. |

### 

# API Design

The Wiki-Forum system provides the REST API’s for web user modules to conduct, retrieve and store all the data into the database. The REST API’s created using Laravel framework. Data storage mainly used in this project is mysql.The system sends and writes the data through REST API’s on request.

## Data Storage

### Database

The Wiki-Forum backend system uses a MySQL database to store the user’s data, tag data, questions data,answer data etc. The database ER diagram which explains the tables and their definitions used in the Wiki-Forum backend system is attached in the [Component Design](#_heading=h.2y3w247) section.

# Component Design

| Document | File |
| --- | --- |
| Infra Design Document |  |
| REST API Documentation | [Wiki Forum API Specification .docx](https://docs.google.com/document/d/1KnGexreiNe7c_gZYR7o6HvPkKjSujejz/edit?usp=sharing&ouid=112501674732361033440&rtpof=true&sd=true) |
| Database Table Structure | [Database Design Document Wiki Forum-v0.1.XLSX](https://docs.google.com/spreadsheets/d/167rje6O6xZ46fPphwpsVqWBeGQ4BpdjK/edit?usp=sharing&ouid=112501674732361033440&rtpof=true&sd=true) |

# Reference

* [**Stack Overflow**](https://stackoverflow.com/)