**Architectural Design:** The discussion portal will be designed on basis of 3-tier architecture which will composed of 3 tiers system. The presentation layer would be the frond-end layer i.e the user interface which is often accessible through browse. The technologies used to build this layer would be HTML5, CSS and JavaScript. The application layer would be functional business logic which drives the functional capabilities of the application and will be build using c#. The data layer comprises of database. Where the data would be accessed by API calls using Microsoft SQL Server.

**Abstract Specification:**

Presentation Layer- HTML, CSS, JavaScript – Web forms

Application Layer- .NET and C# - Web API

Data Layer- SQL Queries - Interface

**Interface Specification:** Web API, interface web service call with inputs and outputs- RESTful, Data Layer Interface.

**Component Design:**

Presentation Layer: Web Form

1. Login Form:

2 Textbox= username and password

1 button= login

1. Registration Form:

5 textbox= first name, last name, major, cbu id and lancer mail

1 button =register

1. Post Question:

Post question tab, drop down button (logout, profile and past record buttons), comment text box with button

1. Create group:

List of all users, sort and filter button

1. View Record:

1 View record button with list of all records made in past

1. Notification List:
2. Edit User:

List of users with delete button

Application Layer: API

1. Authentication API
2. VerifyUser API
3. Question API, VisibilityList API, Comment API
4. CreateLink API, InvitaionLInk API, Group API
5. PastRecord API
6. NotificationSubscription API
7. DeleteUser API, VerifyQuestion API

Data Layer: Interface

1. Iauthentication: Authorization method to check credentials entered by user.
2. Iregister: Register method to see all vales entered are correct and verify inputs
3. Ipostquestion: Post Question, Set visibility and comment methods allow user to post question, set visibility for questions and allow user to view and write a comment
4. Icreategroup: Have methods that will allow user to create group, send invitation link and create link for invitation.
5. Irecord: Have method which will allow user to view their past records
6. Inotify: Method which will allow user to un/subscribe from notification
7. Ichecksum: Method to check if question placed by user is quantifiable or not