

COIN PROJECT

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SYSTEM ARCHITECTURE  
GENERATION TOOL

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PHASE-II

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# INTRODUCTION

## 1.1 INTRODUCTION ABOUT THE TOOL

The System Architecture Generation Tool (Phase-II) is used to convert the user's input data into an architecture diagram.

- ❖ A new user should initially sign up and create his account after which the user can use the login facility and access the application.
- ❖ An existing user should always login for using the application, after which the user is redirected to the Home page for accessing the application.
- ❖ The Home Page provides the user with option to edit and search a saved diagram with the help of the Reference ID of that diagram.
- ❖ There are two modes for taking input from the user:
  - The user's input should be contained in an Excel file in .xls format (2003-2007). It should contain columns including the source (like web browser, web server), destination (like load balancer, application server), communication mode (one way or two way) and other additions (like if the request sent was http). The user is also provided with the option to download the template excel file, where he can choose the entries for each cell from the drop down lists appearing in each cell. The user has to then upload the updated excel file and then press the CONVERT button to convert the input data to the appropriate architecture diagram.
  - The user also has the choice of entering input values for the columns through an in-built tool itself. The tool allows the user to enter the desired values in the form of consequent rows. These rows then used to build the diagram.
- ❖ The user is then redirected to the next screen where there are options for either saving the diagram using the SAVE button or going back to the home page if the user feels he is not satisfied with the input and would like to change it using the CANCEL button.
- ❖ On saving the diagram the user is redirected to the next page where a message is displayed telling the user that the architecture diagram has been saved. Also a Reference Id of the diagram is displayed. An option is present for downloading the diagram as a PDF file, using the DOWNLOAD AS PDF option.
- ❖ The user can also search for a saved architecture diagram using Search Diagram option. The user will be redirected to a screen where on entering the Reference Id of the diagram, the saved diagram can be accessed.
- ❖ The user can edit a saved diagram using Edit option. The user will be redirected to a screen where on entering the Reference ID of the diagram, the saved diagram can be accessed for editing. The editing screen provides the user with the option to either change the saved data for a diagram or

- upload a new spread sheet entirely. The Reference ID for that diagram remains the same upon editing.
- ❖ On each page of the tool, an elaborate help is present to guide the user through each step.
  - ❖ User can navigate to Home page using the Home button on every screen.
  - ❖ In case user wishes to know more about the tool, an About Tool option is present on every screen.
  - ❖ At any point if the user wishes to Logout, an option for the same is provided on each screen.

## 1.2 PLATFORM USED

The .NET framework or platform has been used in the development of the tool. It has the following core parts:

- **C# language** will be used for the coding.
- **ASP.NET** is a Microsoft platform which will be used for developing the web application.
- **ADO.NET** will be used for interacting with the Database (SQL Server 2008).

## 1.3 BENEFITS OF THE TOOL

- The user can view a pictorial representation of the input provided which is easy to understand.
- The user can give the input in the format provided to obtain a dynamically created diagram by the tool.
- The user has the option to edit and search a saved diagram.
- The web application provides comprehensive help on each screen in order to help the user to navigate with ease and provide a good description of each option on that page.

# Description of each screen

## About Tool

- The about tool option is provided at every screen.
- It is used to describe the tool, its features and options.
- It provides great help to the user for initiation.

Screen is shown as:-

**CSC**

BHARATI VIDYAPEETH PUNE

Home About Tool Search Diagram Edit Describe Logout Help

### SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II

**ABOUT THE System Architecture Generation Tool:**

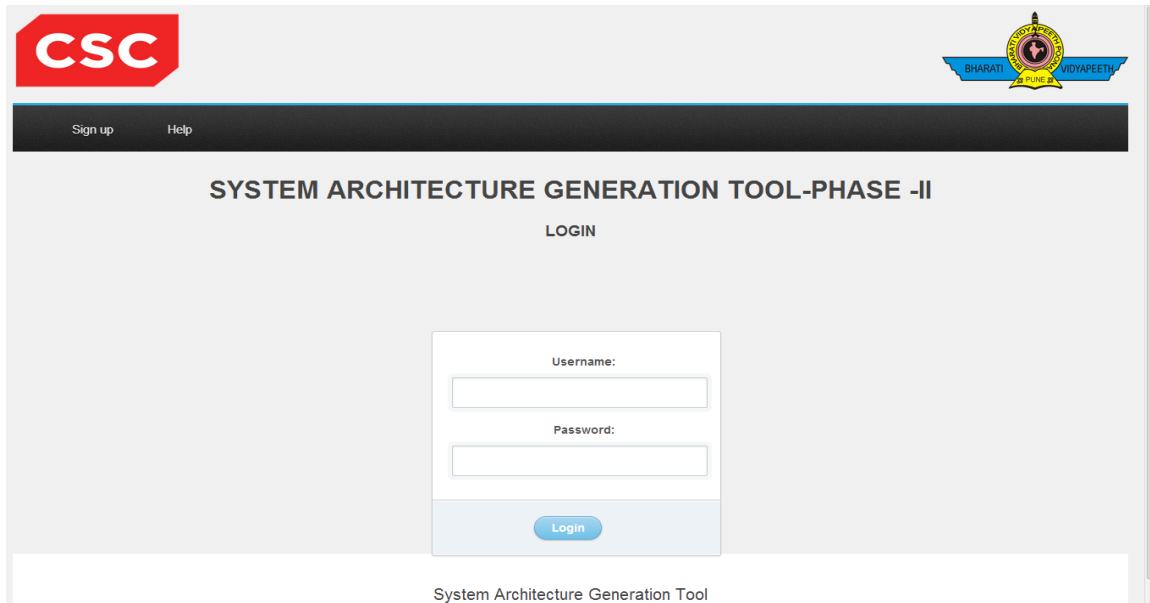
- **I/P from User:**  
The Tool takes input from the which can be taken by any form giving him/her an ability to choose from 2 options.
  - Through Excel sheet(Uploading the Excel sheet as per the correct format),or
  - Using Directly the available Tool
- **O/P from the System:**  
The System output would be a diagrammatic representation of the spreadsheet as a System Generated Diagram.
  - Also display an ["EDIT"](#) Link in diagram on its click the user is directed to the spreadsheet display where he can edit the flow description, name, directional or any other thing and can recreate the table and corresponding
  - Also have a ["Describe"](#) link on which on clicking a new page would open describing the whole diagram as per database by extraction in Data bounds
- **Input Choices:**
  - "Use from Tool":
  - "Use from Excel":

*Hence Just a spreadsheet as an input or a data filled up in a form generates a diagram*

System Architecture Generation Tool

**LOGIN**



**Login** refers to the credentials required to obtain access to the tool. Login page asks user for username and password and use this information to authenticate visitor before allowing them access. Once a user has logged in, they can then **log out** when access is no longer needed.



The screenshot shows the login interface of the 'System Architecture Generation Tool - Phase II'. At the top left is the 'CSC' logo in a red box. At the top right is a circular emblem with a star and the text 'BHARATI' and 'VIDYAPEETHI'. Below these is a dark navigation bar with 'Sign up' and 'Help' links. The main heading is 'SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II' followed by 'LOGIN'. The login form is centered and contains two input fields: 'Username:' and 'Password:'. Below the password field is a blue 'Login' button. At the bottom of the page, the text 'System Architecture Generation Tool' is displayed.

## **Sign up**

**Signup** is to register one's name in order to obtain access to functionalities of the tool. Signup page requires user to enter a valid user name , password and a valid email id. In addition to that it also asks user for a security question and answer. So that it can be used as an authenticator when user forgets his password.



Sign inSign upHelp

## SYSTEM ARCHITECTURE GENERATION TOOL

### Sign Up

Username:

Password:

Confirm Password:



Email Address

Security Question:

Security Answer:

## Help(general)

**Help** page explains user a step wise step procedure of working with the tool. User can anytime refer to this page whenever he/she faces a problem and this page will provide him with the desired guidelines with respect to the tool.



HomeAbout ToolSearch DiagramEditDescribeLogoutHelp

## SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II

### HELP

Welcome xyz

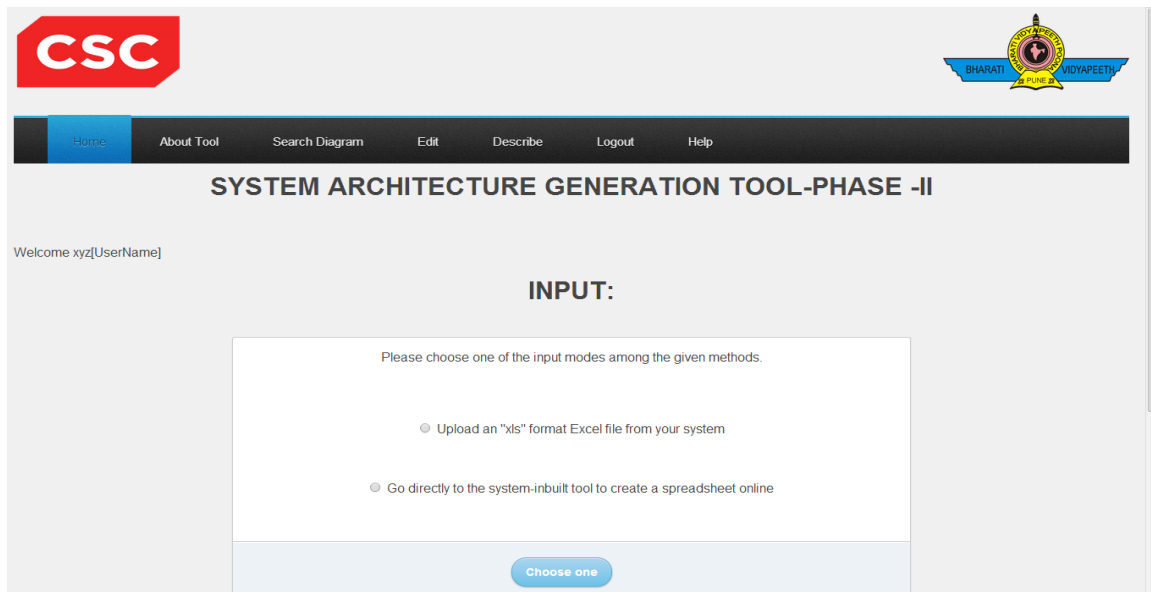
- 1.Please upload an .xls EXCEL FILE ONLY
2. Please provide the PATH of the uploaded file.
- 3.Press the CONVERT button to save the file in the database and convert it to the appropriate architecture diagram.
- 4.Sample Sheet.
- 5.Input can be provided directly from the tool by selecting the appropriate option

Back

## Choose Page:

Choose page is the first page or the home page that would be displayed to the user once he/she logs into the system. After correctly signing-in and logging the user is directed to the Choose.htm page. This page basically just gives the user a way to choose between the 2 methods available for imputing the required data viz. either directly uploading the excel sheet in the appropriate format ,or filling up the data through the in-built tool available in the site. Once user has chosen one of the ways for imputing through correct selection of the radio-button he/she is then directed to the corresponding page.

Below is shown a screen shot of the choose.htm page.



The screenshot shows the 'Choose Page' of the 'SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II'. The page has a header with the 'CSC' logo on the left and a circular emblem on the right. Below the header is a navigation bar with links: Home, About Tool, Search Diagram, Edit, Describe, Logout, and Help. The main content area displays 'Welcome xyz[UserName]' and an 'INPUT:' section. This section contains a text box with the instruction 'Please choose one of the input modes among the given methods.' and two radio button options: 'Upload an ".xls" format Excel file from your system' and 'Go directly to the system-inbuilt tool to create a spreadsheet online'. A 'Choose one' button is located at the bottom of the input section.

## Upload Page:

Once the user is done with choosing is input mechanism he is directed to its corresponding page if user chooses too input through the excel sheet uploading mechanism he is directly taken to the Upload page. Upload page contains a File upload option accessing which user can upload the excel file of his/her choice

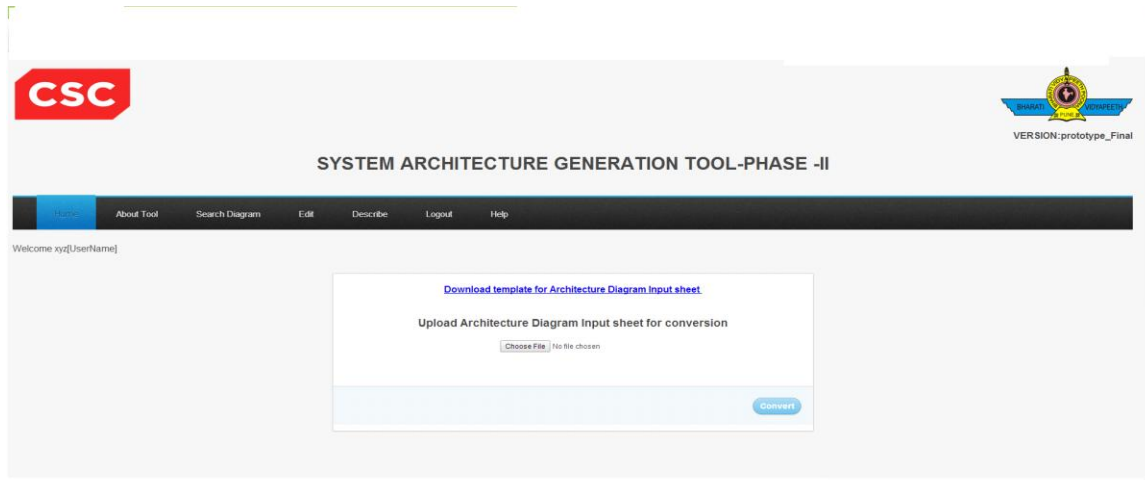
### **Link:**

The upload page also contains a link of "Download the template". This link on clicking downloads a excel file that contains the correct format of imputing the values to successfully generate the architecture diagram

### **Validation:**

The validation has also been performed on the uploading of just the excel format file .Once user tries to upload a file which is non-xls format a JavaScript alert is popped up saying that the "file is not of correct format".





## Tool Page:

If the user chooses to input through the input tool (2nd method in Choose.htm) he/she is directed to the Tool page which has an in built-tool to generate the diagram as per the entered values. Tool page has various inputting fields as explained below in brief:

- ❖ Firstly, User creates his/her own drop-down list in Source and destination that contains names of all the interacting components with one another. The fields for creation are:
  - Diagram Name: The diagram name would take into account the name that is given to the architecture diagram that gets created.
  - Database Name :The database name takes the name of the database that is used to model that architecture Eg.Oracle,MySQL etc
  - Component Name: This field is dynamic and keeps on refreshing every time the submit button is clicked and the value entered each time gets dynamically added in the drop-down list which is available below the submit button
- ❖ Secondly, once user is done with imputing all the components he chooses it from in the generated drop-down as per his inputs ,and correspondingly also chooses Communication type(Bidirectional or Unidirectional) and Flow description (HTTP,SMTP)Once, user has imputed all the values. He can click on the submit button to generate the apt diagram.

Home
About Tool
Search Diagram
Edit
Describe
Logout
Help

Welcome xyz[Username]

## SYSTEM ARCHITECTURE GENERATION TOOL PHASE II

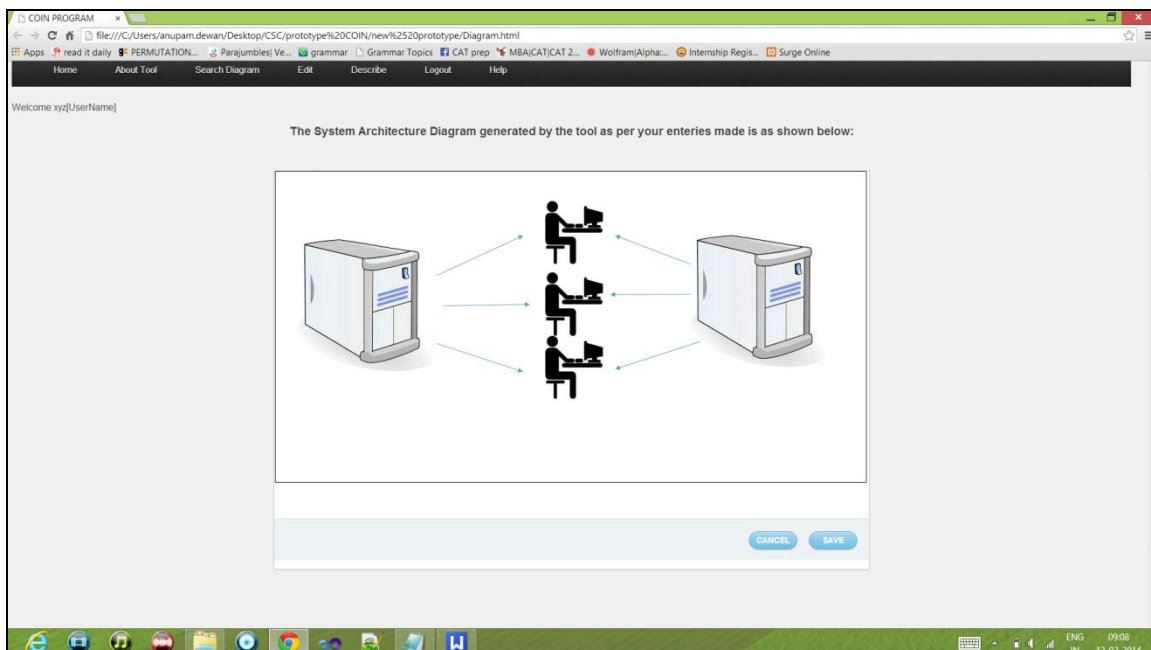
Diagram Name:   
Database Name:   
Component Name:

DIRECTION FLOW

Source	Destination	Communication Type	Flow Description
<input type="text"/>	<input type="text"/>	<input type="text" value="Select One"/>	<input type="text" value="Select One"/>

## Diagram Page:

Once user has imputed the data irrespective of the method followed he is landed up to the diagram page that shows the diagram and also shows the option to Save the diagram for future reference as per the Reference ID generated.



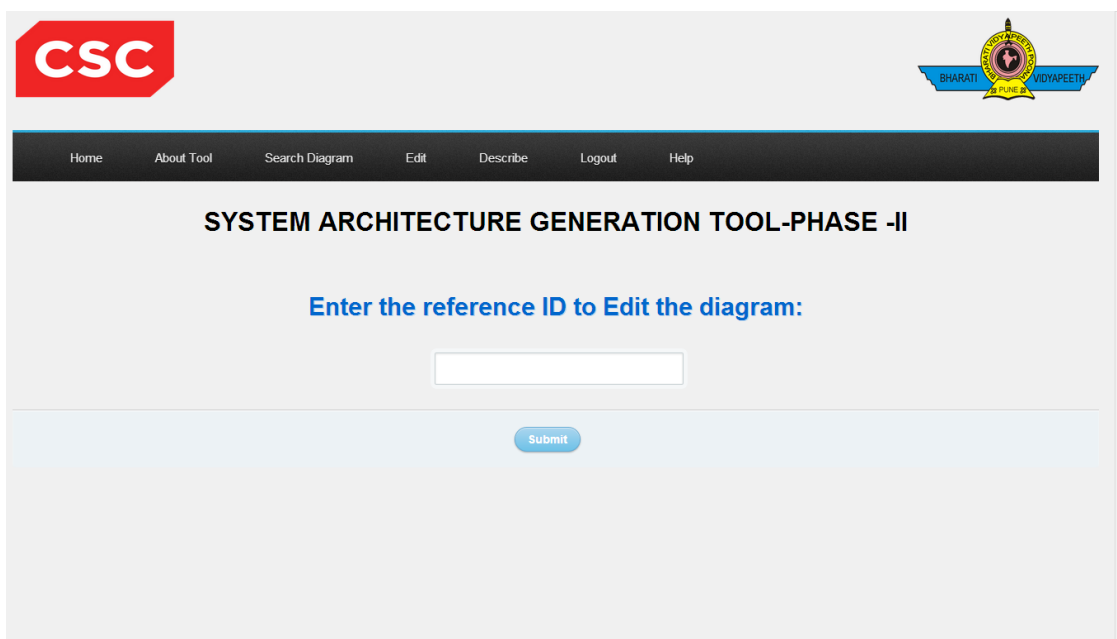
## Edit

The tool is provided with the edit feature. The edit option is used to make changes in the diagram by altering the source, destination, communication mode and flow description.

The user can use this feature as:-

1. Click on the Edit option provided at every screen after Login.
2. Enter the reference ID for the diagram to be searched and press Submit button.

Screen is shown as:-



**CSC**

BHARATI VIDYAPEETH  
PUNE

Home About Tool Search Diagram Edit Describe Logout Help

**SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II**

Enter the reference ID to Edit the diagram:

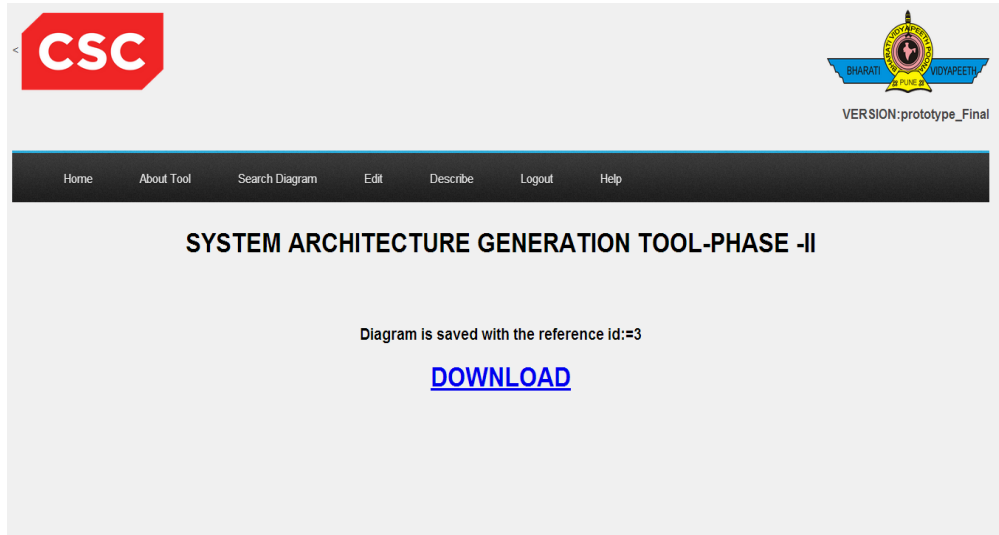
Submit

3. A screen showing two options appears.



## Edit the previous record



- The information of the same diagram is shown. The details are in the tabular form i.e. columns consists of Application name, incoming interface, outgoing interface, communication mode and flow description and the rows shows the connection record of every component in the diagram.
- The edit button is provided along each row. The user can edit a particular row by pressing the edit button along that row. After that a cursor is placed automatically along that row which helps the user to make changes on the screen.
- Press on the save button to make changes in the database across the given ID and the screen showing the diagram appears where user can press on save button to save the diagram.
- The reference ID of the saved diagram is displayed and the downloaded option is available where user can download the diagram



- **Upload a new spreadsheet**
  - Press on the upload button
  - A screen appears where the user can choose the file

## Help(EDIT)

- Help is also provided at edit interface.
- It provides the all the necessary information regarding how to use the edit feature and the various steps to proceed.



HomeAbout ToolSearch DiagramEditDescribeLogoutHelp

### SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II

#### HELP

**\*Enter the reference ID for the diagram to be searched and press Submit button.**

A screen showing two options appears.

**Edit the previous record**

1)The information of the same diagram is shown. The details are in the tabular form i.e. columns consists of Application name, incoming interface, outgoing interface, communication mode and flow description and the rows shows the connection record of every component in the diagram

2)The edit button is provided along each row. The user can edit a particular row by pressing the edit button along that row. After that a cursor is a placed automatically along that row which helps the user to make changes on the screen

3)Press on the save button to make changes in the database across the given ID and the screen showing the diagram appears where user can save the diagram on his side

**or Upload a new spreadsheed**

1)Press on the upload button

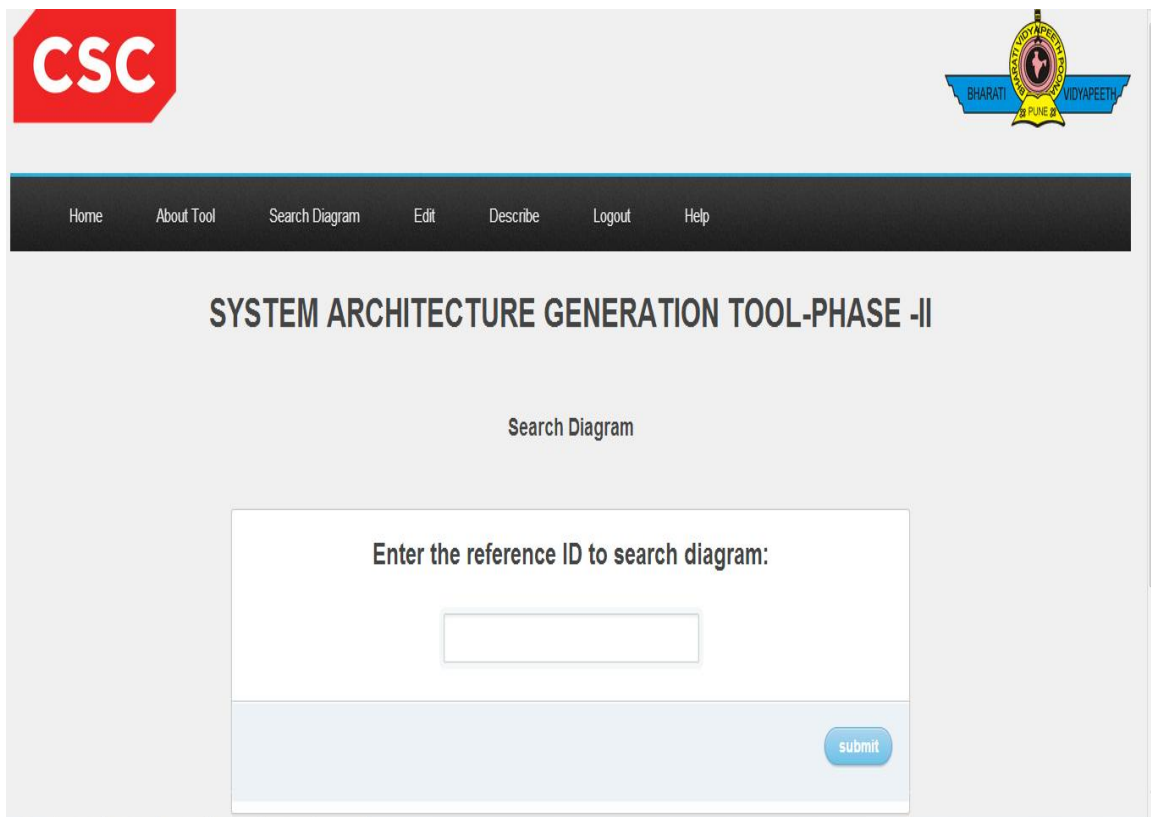
2)A screen appears where the user can choose the file

System Architecture Generation Tool

## Search Diagram

- The user can search for the saved diagram by giving the reference ID for the diagram.

Screen is shown as:



The screenshot displays a web application interface. At the top left is the 'CSC' logo. At the top right is a circular emblem with a lamp and the text 'BHARATI VIDYAPEETH' and 'WISDOM BEGETS KNOWLEDGE'. Below these is a dark navigation bar with links: Home, About Tool, Search Diagram, Edit, Describe, Logout, and Help. The main content area has the title 'SYSTEM ARCHITECTURE GENERATION TOOL-PHASE -II' and a subtitle 'Search Diagram'. A central white box contains the text 'Enter the reference ID to search diagram:' above a text input field. A blue 'submit' button is located at the bottom right of this box.

- By pressing on the submit button, the diagram will be shown.