A project report on

Dynamic Cluster Technique Implementation Over CAD ERP Integration

Submitted in partial fulfilment of the requirement

for the award of the degree

MASTER OF COMPUTER APPLICATIONS

of

Visvesvaraya Technological University
Belgaum, Karnataka

By

Madhankumar H M
1CR18MCA67

Under the guidance of

Internal Guide

Dr. A. Abdul Rasheed
Associate Professor,
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Bangalore.

ExternalGuide

Mrs. PreetishMukundan
Sorbix LLC,
Bangalore.

CMR INSTITUTE OF TECHNOLOGY

132, IT Park Road, Kundalahalli, Bangalore-560037
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CMR INSTITUTE OF TECHNOLOGY
Department of Master of Computer Applications
Bangalore - 560037

CERTIFICATE

This is to certify that the project work entitled

Dynamic Cluster Technique Implementation Over CAD ERP Integration

Submitted in partial fulfilment of the requirement
for the award of the degree of
Master of Computer Applications of the
Visvesvaraya Technological University, Belgaum,Karnataka
bonafide work carried out by

Madhan Kumar H M
1CR18MCA67

during the academic year 2019-2020.

Signature of the Guide	**Signature of theHOD**	**Signature of the Principal**
Dr.A.Abdul Rasheed	**Ms.Gomathi.T**	**Dr. Sanjay Jain**
Associate Professor, MCA	HOD, MCA	PRINCIPAL, CMRIT

External Viva

Name of the Examiners   Signature with date
1.
2.

⊘ Sorbix

16-06-2020

PROJECT COMPLETION CERTIFICATE

This is to certify that Mr. Madhan kumar HM, bearing **(USN NO: 1CR18MCA67)** a bona fide student of CMRIT **College**, pursuing his **Master of Computer Application**, has worked on the project entitled "Dynamic **cluster technique implementation over CAD ERP Integration** " from Feb 2020 to May 2020 at our organization SORBIX LLC-Bangalore, and has successfully completed the internship program.

During the tenure of the project, he was found punctual, hardworking and inquisitive. We wish all the best for future endeavors.

For, Sorbix LLC

Preetish Mukun
(Team Leader)

DECLARATION

I, **Madhan kumar H M,** student of 6th MCA, **CMR Institution of Technology**, bearing the USN **1CR18MCA67**, hereby declare that the project entitled **"Dynamic Cluster Technique Implementation Over CAD ERP Integration"** has been carried out by me under the supervision of External Guide **Mrs. Preetish Mukundan**, Project Manager**,** and Internal Guide **Dr.A.Abdul Rasheed**, **AssociateProfessor**, **Dept. of Master of Computer Applications** and submitted in the partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications by the **Visvesvaraya Technological University** during the academic year 2019-2020.The reports has not been submitted to any other University or Institute for the award of any degree or certificate.

Place: Bangalore   Madhan kumar H M

Date: (1CR18MCA67)

ACKNOWLEDGEMENT

1. PROJECT DESCRIPTION

1.1 PROJECT DESCRIPTION

This application is developed by implementing the technology of the dynamic clustering techniques for the CAD and ERP based application. The technology of clustering techniques will help the designing application to store the data in the size effective way. This technology will help the application to find the identical design and allocate same storage memory to store the data design. These will be helpful when the developers are working over the larger size design like machinery or the multi-storey apartment design etc. The clustering techniques will collect identical designs like kitchen or beam position or units in the machinery once and will be displayed in the other area when the users make request.

The steps used in the clustering techniques are partition techniques for the divide the units of the single work and complete the design from the different teams groups. The next step is regarding the hierarchical techniques used for the line up the work scenario to be completed from the customer's order over the work to be completed. The fuzzy clustering techniques is used if there are more than five design with same nature of operations and designing. The density based clustering is functioning over the domain operations management. If number of works called in each cluster will size up its density
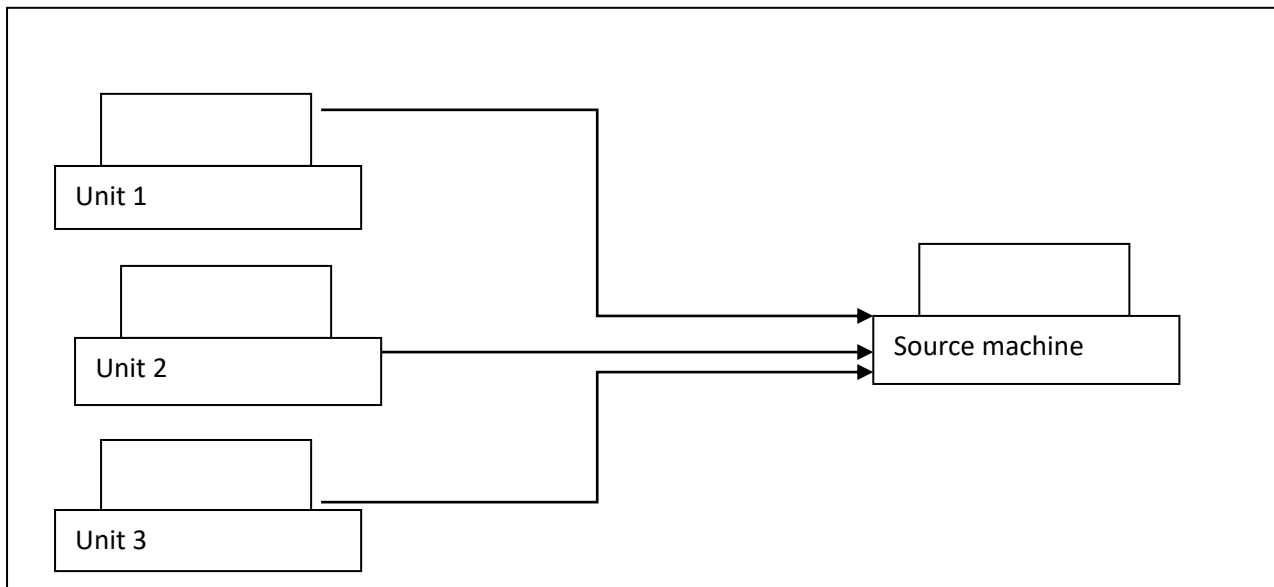
Fig 1.1: Unit clustering1 source machine

Without clustering techniques the design from the three units are collected and displayed in the source machine directly. If the two or more units have the same design the application algorithm neither identify it nor take steps to prevent the repetitions. In the new techniques the application uses the clustering techniques to identify the repeated design in each unit and process it dynamically by providing the same storage location for all the repeated designs. The modules in the clustering techniques are as follows

- o The server network management.
- o The domain implantation
- o Cost and design management
- o The client or third part data access
- o The report module.

The server network management.

This module is created for managing the activities of the server operation like list of the system used for the clustering, the system used for the non-designing operations the system used for the CAD or other designing operations, the user authentication over the server is the next province include in this network module.

The domain implantation

The domain where the clustering techniques are implemented is varied over the customer's request and the business types. This domain states over the data are put into operation the result generated and the customisation needed for the software implementations. Even this application is implemented for the designing based business type the clustering technique is equally implemented in the area of data migration and warehouse techniques too.

Cost and design management

The module is created for designing operation unit and non designing operational unit to interact. Clustering techniques will allocate the data units which has the attributes for the total size of the building, the cost planning steps, the raw materials needed to be used in the cost planning etc. The algorithm will be identify each unit with selected raw materials and the cost details for each selected design will be planned. The process of dynamic cost calculation with clustering techniques is explained in the functional requirement session

The client or third part data access

The application allow the third party software application or same application module from the remote system for the domain operations. For example the client who want to examine the design created designers and to pass the further updated to the designers they have to access the units through the client module. Also the details for fetching the already existing design from the remote system with same configuration or different configurations are explained in the this module
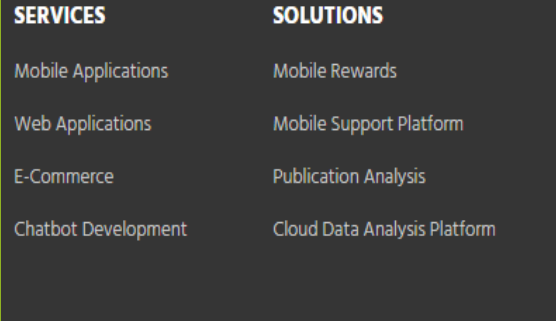
The report module.

The module which is created to review the outputs from all modules. This report module has server based data communication lists, the list of design migrated in the clustering technique , the cost estimation, the updates in the cost, the total cost generated, the updates, the cost variation made by the new customer inputs etc.

1.2 COMPANY PROFILE

SORBIX is Bangalore based freelancer units for developing flexible, extensive product and data analysis for the customers. The experiences freelancers in the Microsoft domain are members of SORBIX and the organization will make sure their experience can find better exposure for the business requirement and the other technical solutions. SORBIX will ensure all products B2B program via growth by enabling the customer quick feedback in the domain. Utilizing the E commerce o create the business connections among the customer and data tracking in the business operations.

Company service detail

SERVICES	SOLUTIONS
Mobile Applications	Mobile Rewards
Web Applications	Mobile Support Platform
E-Commerce	Publication Analysis
Chatbot Development	Cloud Data Analysis Platform

2. LITERATURE SURVEY

2.1 EXISTING SYSTEM AND PROPOSED SYSTEM

2.1.1 Existing system

In the existing system ERP CAD integration software will be working without dynamic cluster technology implementations. So the application my use more storage space for the data and design storage in the application process. The design will be fetched from the SQL server and save in the cache or user allocated data server for the big size data managements. The annotate locking system is not included in the existing system which will not permit two users to work simultaneously and save the changes in the SQL server.

Limitation in the existing system

o Communication between the ERP and non ERP application is managed with third party supporting tool.
o Cost estimation is based on the manual data inputs.
o Based on single domain implementation and cannot be used for multiple domain integrations.
o No direct data receipt from the third party inputs. Chatbot interface is used for the receiving the inputs from the third party client or users.

2.1.2 PROPOSED SYSTEM

In the new proposed system the application is modified with technology of dynamic clustering techniques. With this new implementation approach the application use less space for the data storage and save dynamic storage unit and can be accessed from multiple users from different systems. Algorithm can find and associate together the frequently used data designs with new clustering techniques. This new features can work for the design and the ERP integrations in the application module within single work managements.

The advantage of proposed systems

o The single application has the module for the ERP and the design integration and not needed to use the third party plug in the clustering techniques.
o Auto cost calculation is made from the algorithm and shows dynamic cost planning for each module with help of latest technology implementations.

- These techniques can be used for multiple design domain from the building to the machinery design for industrial purpose.
- Chatbot interface is not used in the software and separate module is created for the direct interaction between the users and the third party users integration. This will increase the integrity and transiency of the software applications.

2.2 **FEASIBLE STUDY**

The feasibility of the application is conducted to fore see the requirements which will enhance the application operations. This study is carried before the making the initial step in implementing the clustering technology in the software application. The steps to identify the design area where clustering technology can be implemented the change to be brought together in ERP and design module with help of clustering techniques etc in the feasibility study. The feasibility study in the clustering technology carried in the following areas

- The operational feasibility in design.
- Technical feasibility in the clustering techniques
- Cost feasibility in new technology implementation

The operational feasibility in design.

The application is designed over the data integrations from the SQL and the data architecture design created for the ERP operations. The users are called to operate in the both areas of design form the both CAD based GUI and from the ERP modules operations. So in the operational feasibility the developers will study over the various possibility of the CAD based works and the respective solutions in ERP. The data migration steps are called for the CAD and the ERP SQL server integrations. The designers also see the possibility operational requirements for the alternative solution for non CAD based software lie silver light or CATIA.

Technical feasibility in the clustering techniques

The study over the technical support to be given for the clustering technology implementation. The software should support the features of multiple software building, the version controlling , the architecture coverage for the multiple OS running etc. The application uses visual studio for the software development and TFS for clustering technique

support integrations. The detailed explanation of the software tools and technologies are explained in the section **2.3**

Cost feasibility in new technology implementation

The final feasibility study is carried in the cost estimation and steps to prevent unwanted expense in the clustering technique implementations. This software is required with the properties which are not be included in the traditional personal computer or open source software holds, the features for storing big size cache data, the software for Linux or non Microsoft integration software etc are needed to be included in the cost feasibility study. The developers duty is to make sure the total cost will not exceed the budget and application annual maintenance cost after the cluster technique implementation will be within the clients financial plan.

2.3 TOOLS AND TECHNOLOGY

The application uses the visual studio for the domain module development and the TFS for the technical support tools needed for the clustering technique implementation. The list of tools used in the application are

- o   Visual studio
- o   The C#.net
- o   SQL server
- o   TFS
- o   Team build
- o   VM ware
- o   SVN

The Visual studio

The IDE in the software application development is managed by visual studio premium edition 2014. The premium edition is paid version of the visual studio which supports high level tools which are exclusively needed for the dynamic clustering techniques.

The C#.net

The business logic coding needed for the CAD or any other design based unit and the ERP unit are coded in the C# language. The C#.NET framework contains the algorithm for ERP

and the CAD integration, the code to write code in the CAD and the optimise the result generated.

SQL server

The back end tool used for the storing the ERP and CAD based data are in SQL server management studio 2008 R2. The dynamic storage with help of clustering technique will help the developers to save the size needed for the high volume designs needed in the ERP applications.

TFS

Team foundation server is the tool used to integrate the visual studio with the other supporting tools used for the clustering technology. This server will be working within the organisation and only integrate with software used within the foundation.

Team build

The software which helps the developers and the network support engineers to connect CAD and ERP module building together. The team build will gather, synchronise and build all the modules of different functionality and the domain together with a single button click of the TFS software. For the better operational building experience the users will allocate a separate machine which is only used for the software building, from where the debugging, exe file management etc are managed.

VM ware

The software used for the creating a virtual environment for the users in the testing department. VM ware is commonly used by the testing users and rarely used by the developers end. After the developers coded the program and which is properly running in the architecture of ERP setups the testing engineers will test the same modules in the CAD environment which is created by VM ware and make sure software operates without failure..

SVN

The SVN or subversion control software is TFS based software used for the storing the overwritten programming code. The TFS will auto generate the annotate for each changes made by the developers in the visual studio and the users can review, recall and update all the

codes on request. Each changes are saved in the version control name, or data and time modified. And users can retrieve old code by selecting the date or version control name.

2.4 **HARDWARE AND SOFTWARE REQUIREMENTS**.

RAM (**without** Dynamic clustering techniques)	2 GB
Hard Disk (**without DYNAMIC CLUSTERING TECHNIQUES**)	250 GB
Server (**without DYNAMIC CLUSTERING TECHNIQUES**)	IIS, HTTP caching server
Processor (**without DYNAMIC CLUSTERING TECHNIQUES**)	Pentium 4

RAM (**DYNAMIC CLUSTERING TECHNIQUES**)	128 GB
Hard Disk (**DYNAMIC CLUSTERING TECHNIQUES**)	16 TB
Server (**DYNAMIC CLUSTERING TECHNIQUES**)	IIS, TFS

Software requirements

Test (**DYNAMIC CLUSTERING TECHNIQUES**)	MTM
Front end (**DYNAMIC CLUSTERING TECHNIQUES**)	ASP.NET
Middleware (**DYNAMIC CLUSTERING TECHNIQUES**)	C#.NET
IDE (**DYNAMIC CLUSTERING TECHNIQUES**)	Visual studio
Back end (**DYNAMIC CLUSTERING TECHNIQUES**)	SQL server 2008 R2
Processor (**DYNAMIC CLUSTERING TECHNIQUES**)	Pentium 4

3. SOFTWARE REQUIREMENTS SPECIFICATION

3.1 USERS TYPES

The users of the application are grouped as their role and the department where they are assigned. The users are created to manage the design with high level tools of CAD or silver light, and other users are created for the managing the clerical works regarding the design created and managing the customer's request. The user group and user type are as followe

- Clerk
  - Accountant
  - Network users
- Design
  - Clerk client relationship
  - CAD or silver light operator
- Administration users

The accountant

 The users who are assigned to work over the total cost estimation and accounts planning over the design created by the designers. The work of accountant will be start first so that the application can fetch the base cost needed for each unit implementations.

Module	Read	Update	Insert
The server network management.	No	No	No
The domain implantation	Yes	No	No
Cost and design management	Yes	Yes	Yes
The client or third part data access	Yes	No	Yes

Network users

The users for managing the CAD to ERP integration procedures. These users are not authorised to work in domain or make changes in the inputs given by users or client, the work process of network users are focussed in the areas of data migrations, the SQL data mining, the work with VM ware software etc.

Module	Read	Update	Insert
The server network	Yes	Yes	Yes

Module			
management.			
The domain implantation	No	No	No
Cost and design management	No	No	No
The client or third part data access	No	No	No

Clerk client relationship

The employees of the organization to consult with clients and give the technical work flow details to the designers and details regarding the cost and other resource planning to the accoutat users.

Module	Read	Update	Insert
The server network management.	No	No	No
The domain implantation	Yes	Yes	Yes
Cost and design management	Yes	No	Yes
The client or third part data access	Yes	Yes	Yes

CAD or silver light operator

The users who are created to work in the designing unit. The users do not have access in the area of accounting module or to make any updates in the ERP modules. The details like data migrations or data warehouse between CAD and accounting attributes are managed by the CAD users.

Module	Read	Update	Insert
The server network management.	No	No	No
The domain implantation	Yes	No	No
Cost and design management	Yes	Yes	Yes
The client or third part data access	No	NO	No

3.2 **FUNCTIONAL REQUIREMENTS**

Functional requirement number 1:

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Functional requirement name: work order create

Functional requirement discretion: for the dynamic cost calculation the details of the total work order is created first and it will be branched into separate clusters and merged together

Inputs work order, the client name, number of sub work orders.

Process: auto generate the work order and assign each sub work order with the auto generated work order number.

Output : generate the work order and the sub work orders.

Functional requirement number 2:

Functional requirement name: gather raw material unit cost

Functional requirement discretion: this unit cost of raw materials are used for the accounting module to generate the total cost of the work.

Inputs : item name, the unit , the price.

Process save the manual input details in the SQL by keeping the item ID as primary key.

Output : save the data in SQL.

Functional requirement number 3:

Functional requirement name: dynamic cost calculation

Functional requirement discretion: the clustering feature is applicable to find the same design and find the different cost when user give different parameters or same design called for multiple platform.

Inputs : work order ID, the item ID

Process: call algorithm to calculate the total cost of design from the raw materials given by the users.

Output : display the total cost generated

Functional requirement number 5:

Functional requirement name: cost for existing design

Functional requirement discretion: find the total cost needed for the existing design with different parameters

Inputs :design ID

Process: fetch the design area parameters, the size calculation, list of required raw materials from the SQL.

Output : total cost needed for the selected design will be calculated.

3.3 **NON FUNCTIONAL REQUIREMENTS**

The non functional requirement is calculated to find the future possibilities of clustering technology in the current business domain of CAD ERP and also check the other domain area where the new technologies can be implemented. The area of non functional requirement is conducted in the following area

- o Flexibility
- o Reliability
- o Security
- o Data integrity

Flexibility

The application is more design platform to ERP integration software. The developers can use this software for the CAD or CATIA or silver light IDEs for the software integration and work processing. This will improve the flexibility of the software from the area of ERP to any designing platform tool.

Reliability

This part shows the how reliable is the auto generated cost for each design. With help of the clustering technology the various design clustered in multiple area is call for the other IDE cost estimation. So developers are needed to focus on only one single design and further the total cost generated for all other will be calculated based on it.

Security

The security of the data which are saved in cluster , the cache memory and the SQL server are discussed in the security part of non functional requirement. The application will auto

fetch the details and saved in the cache memory and these detail are later merged in the clustering technology, so the data saved in the cache memory will remains in the cache memory which will rise question regarding the security of the data. So to overcome this mistake developers user auto clear memory, the use server based data gathering to improve the security of the application.

Data integrity

One of the main advantage of this application is data integrity in the dynamic method. This application uses only single storage unit for a common design and the same design will be called in the multiple level of the applications. So in each level the users will be giving the different updates in the raw material used or the alteration in the size of the design made. The feature of annotate will be save this extra changes made and make sure this will not affect of the units where the changes are made.

4.SYSTEM DESIGN

4.1 SYSTEM PERSPECTIVE
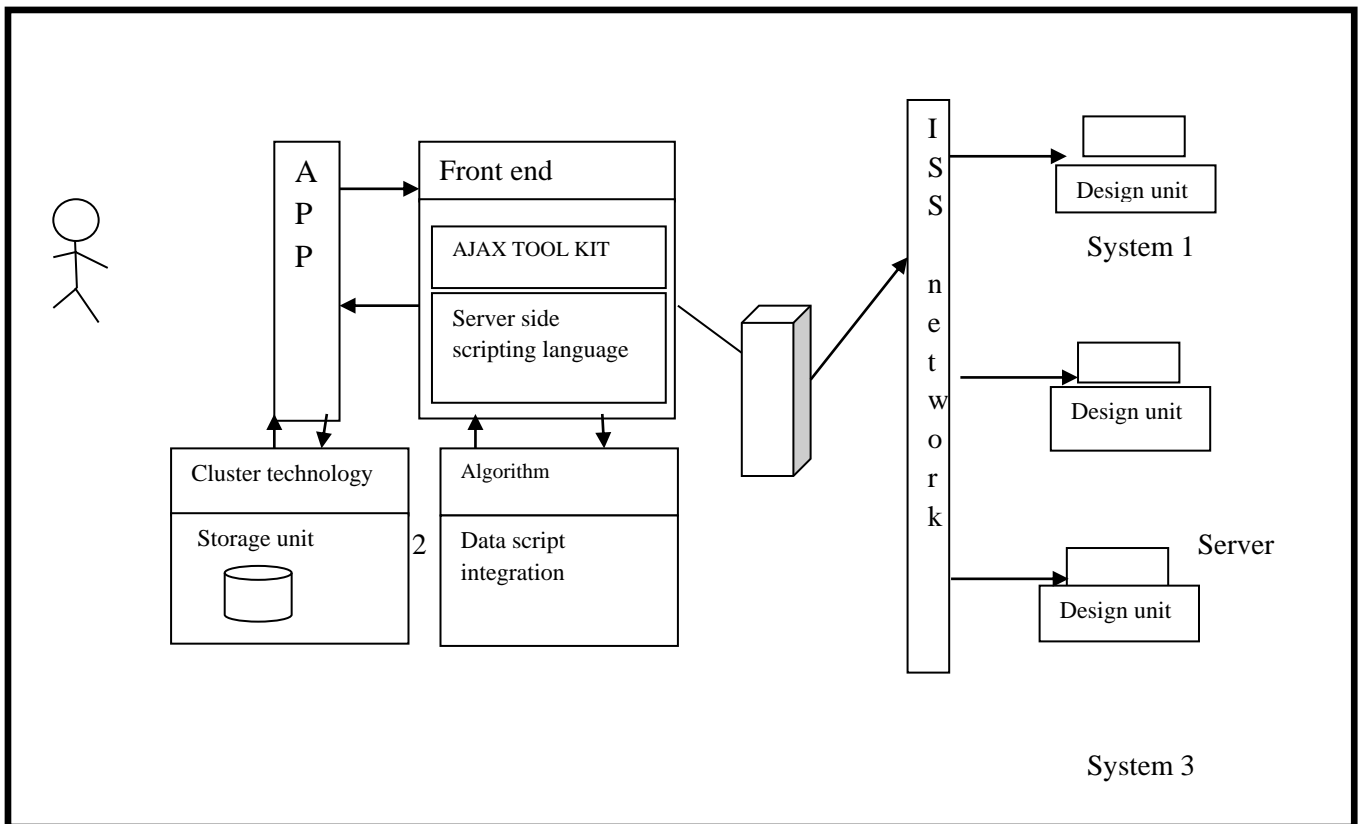
Fig 4.1: architecture diagram for clustering technology

The algorithm for the clustering technology is attached with the main application portal and this will be code to search the design in the multiple system used by the design units. The developed side coding is loaded with three tier architecture and the centralised server for the main application based data storage and the design based interactions.

4.2 CONTEXT DIAGRAM
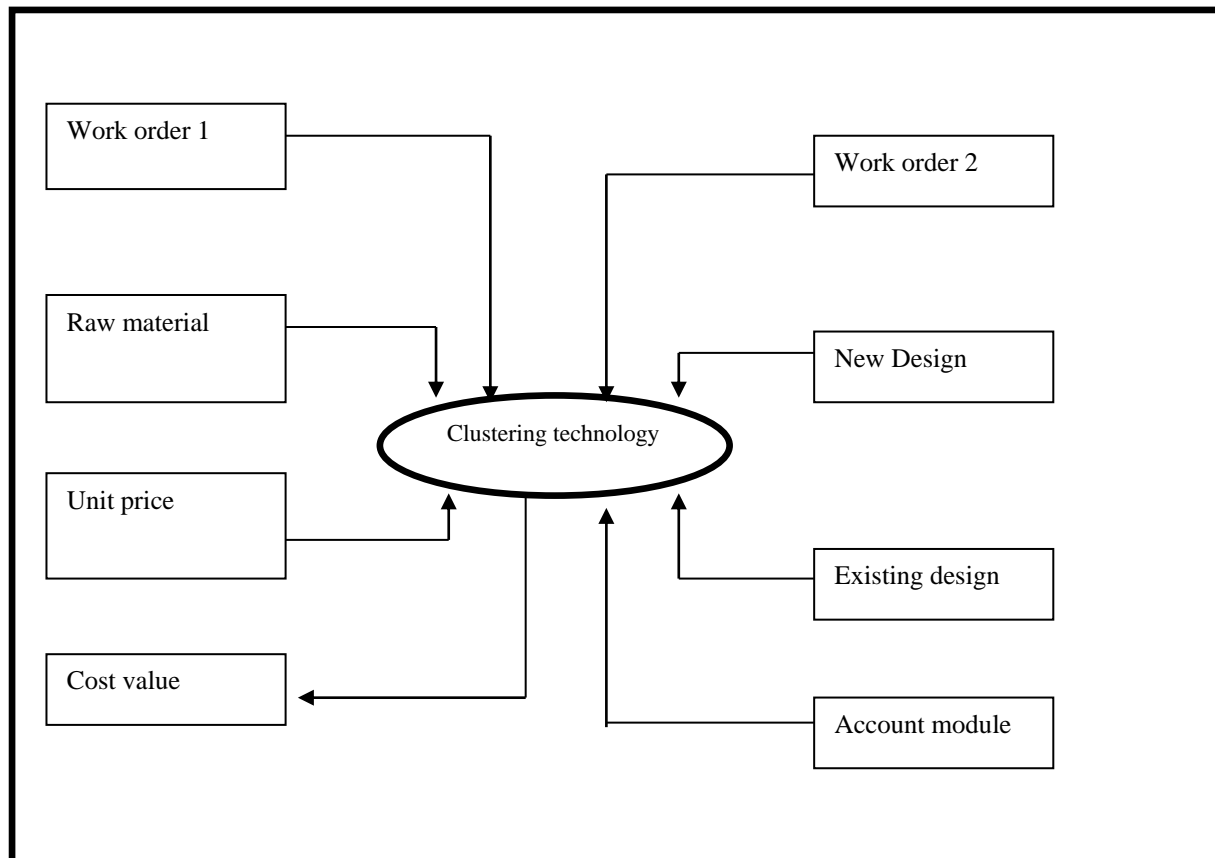
Fig 4.2: context diagram in clustering technology.

The clustering technology algorithm will be acting as intermediate among the different designing tools and units used in the software linking. Apart from the design based intermediate the module related to accounting the raw material used in the software integrations.

5.DETAILED DESIGN

5.1 USE CASE DIAGRAM
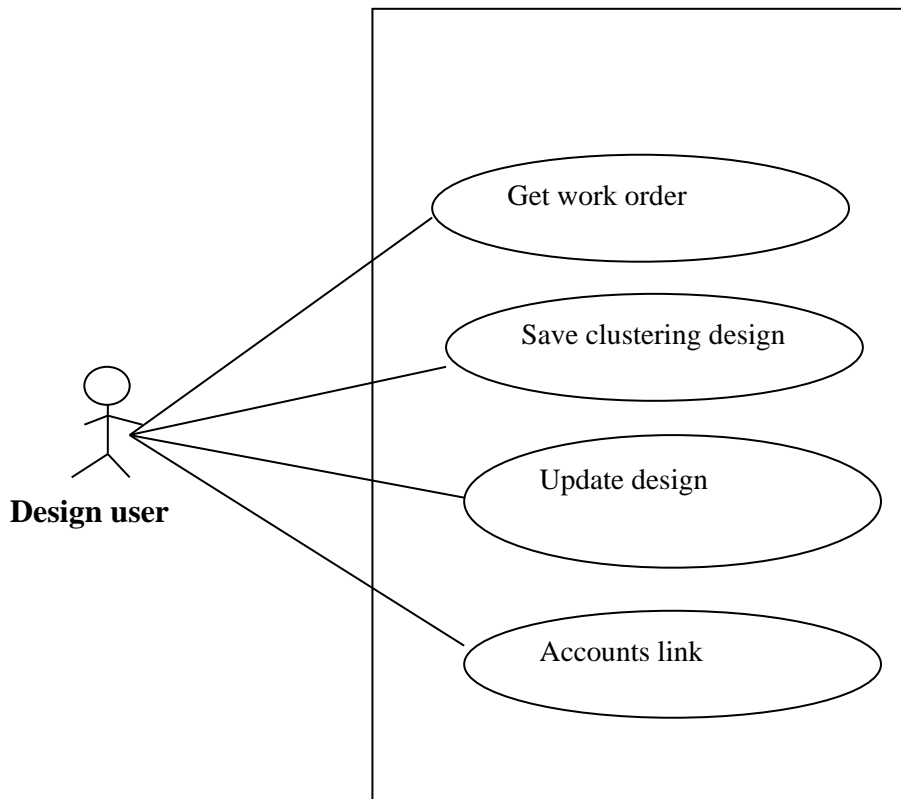
Fig 5.1.1: use case diagram for design user.

The user works in receiving the new work order, create the new design and the cluster algorithm saves the data in the clustering technology and the updates in the cluster and the main design etc are managed with in deign user module.
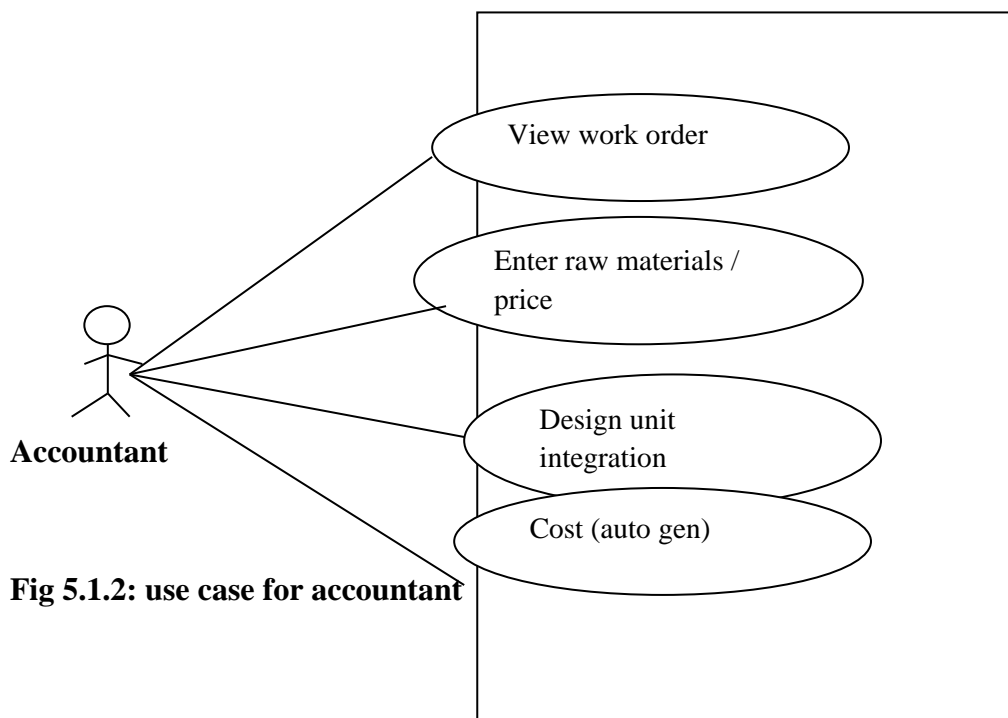
Fig 5.1.2: use case for accountant

16

The user view the order, create the raw material price for the item and this raw material list will be linked with main design unit. The design unit has the parameter values form the clustering technology based design and also details of non clustering design too.
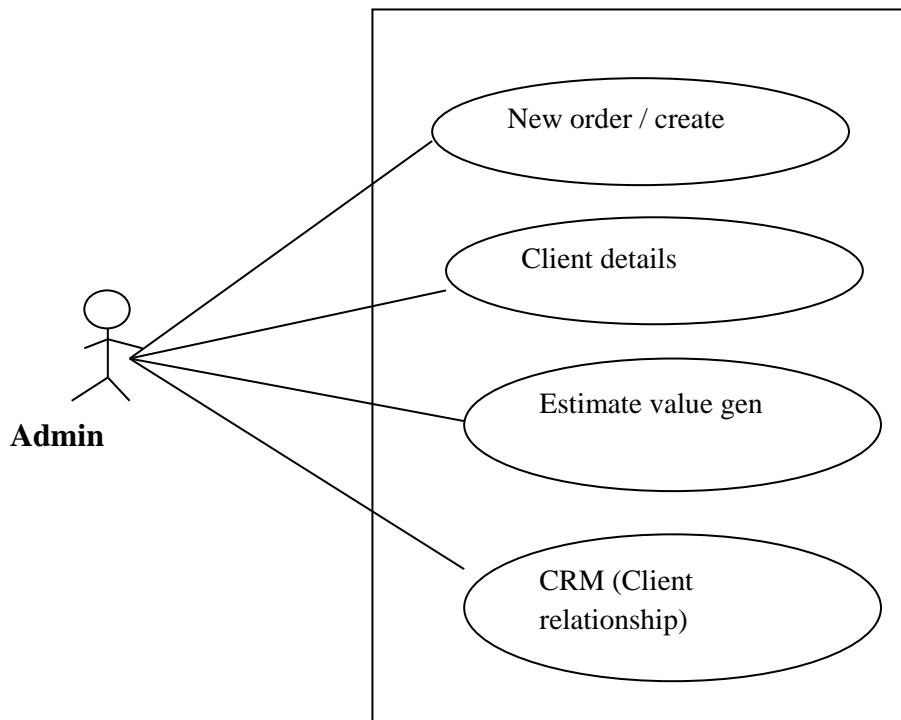
Fig 5.1.3: use case for admin

The admin user will generally work in the CRM based activities improvement step. The creating the new order , the client details registration , the estimate value generation and the evaluating of the auto generated value in the clustering technology and non clustering technology based data . The admin has the permission over the entire project setting authentications
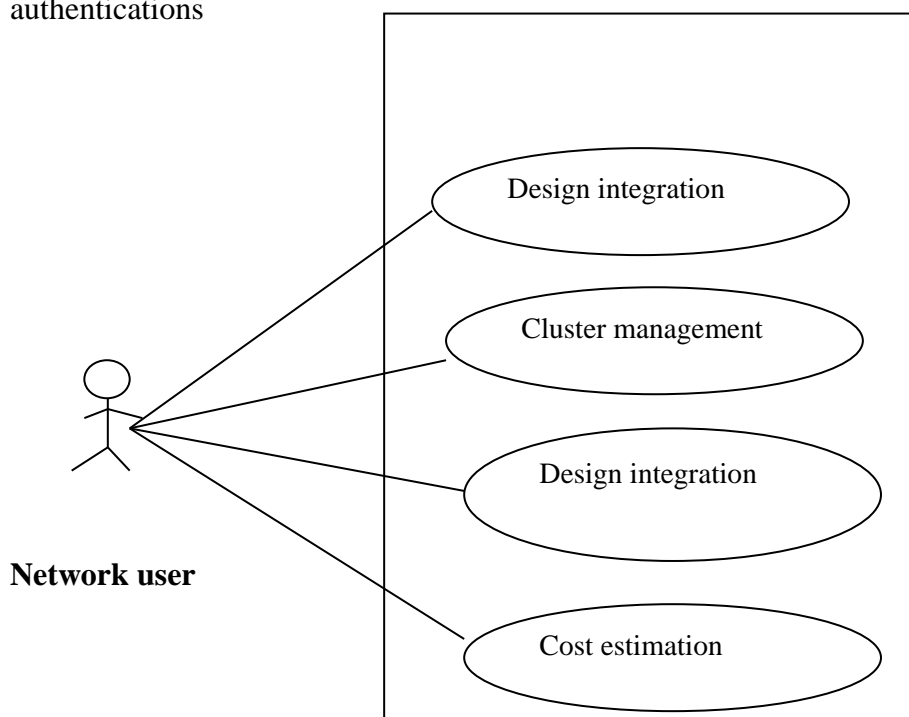
Fig 5.1.4: use case for network based operations

The network based users will be working to connect the system used for clustering technology. This users need to set the architecture among the different system used for accounting process, the cluster and no clustering based design system integrations.

5.2: SEQUENCE DIAGRAM
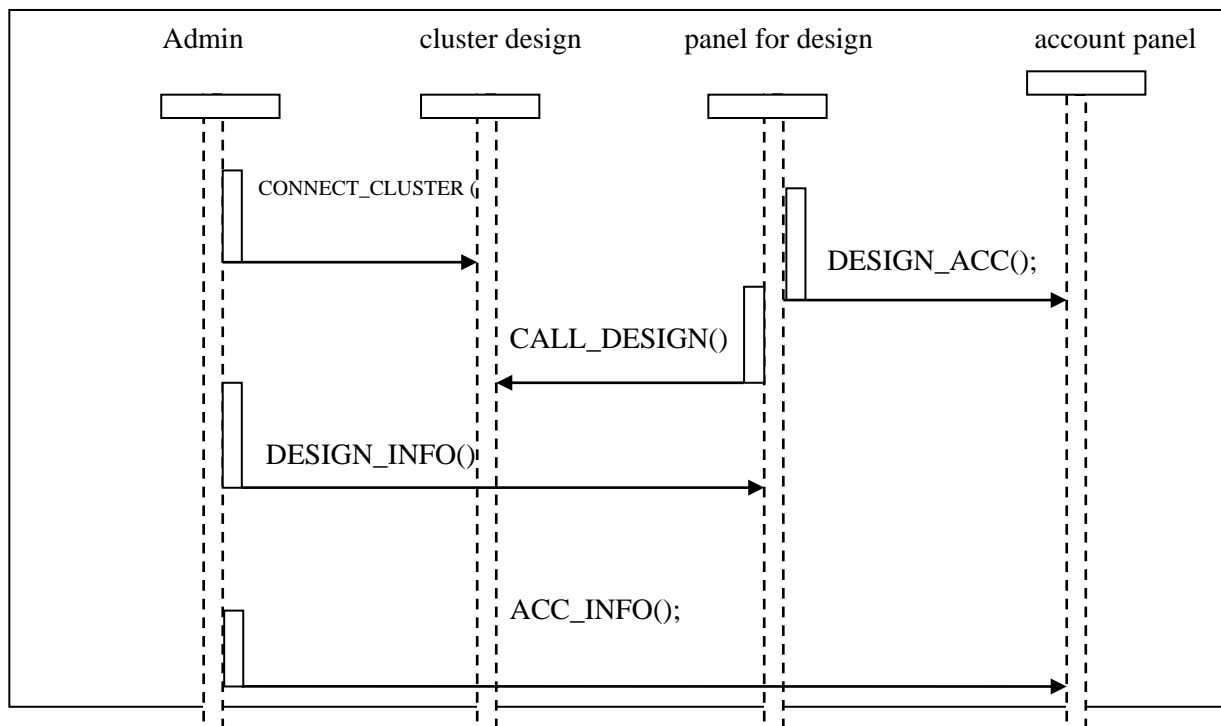
Fig 5.2.1: sequence diagram for design to cluster integrations.

The admin user will create the unit for the clustering design where the control and the programs loaded with set of instruction for finding and saving the same design in the software application. the data from the main panel of the design will be link to the clustering unit and the design form the main design and the clustering panel will be connected with accounting panel for the cost based calculations.
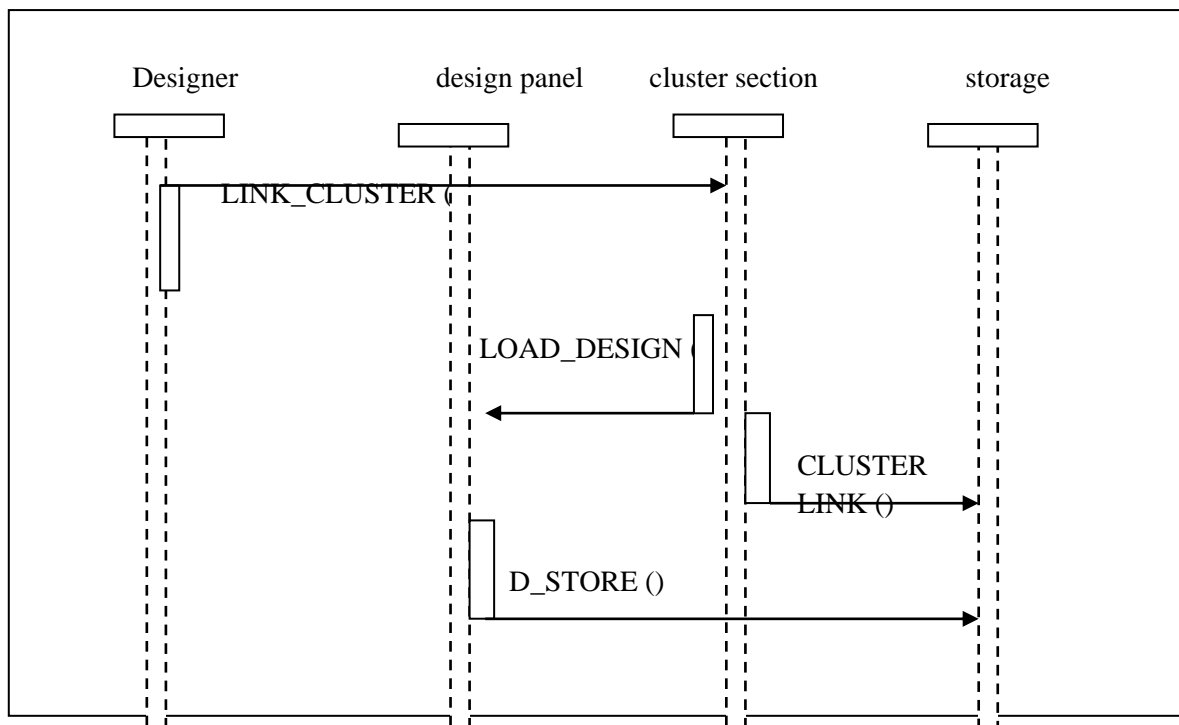
Fig 5.2.2: Sequence diagram for designer and the storage for the designer made works.

The designer makes the call for the clustering panel from where the main design are loaded in the design panel. The storage has the data storing unit for both clustering and overall design for the storage. When the designer makes the request for the opening the existing design panel the design are fetched from the clustering unit and design with non clustering units.
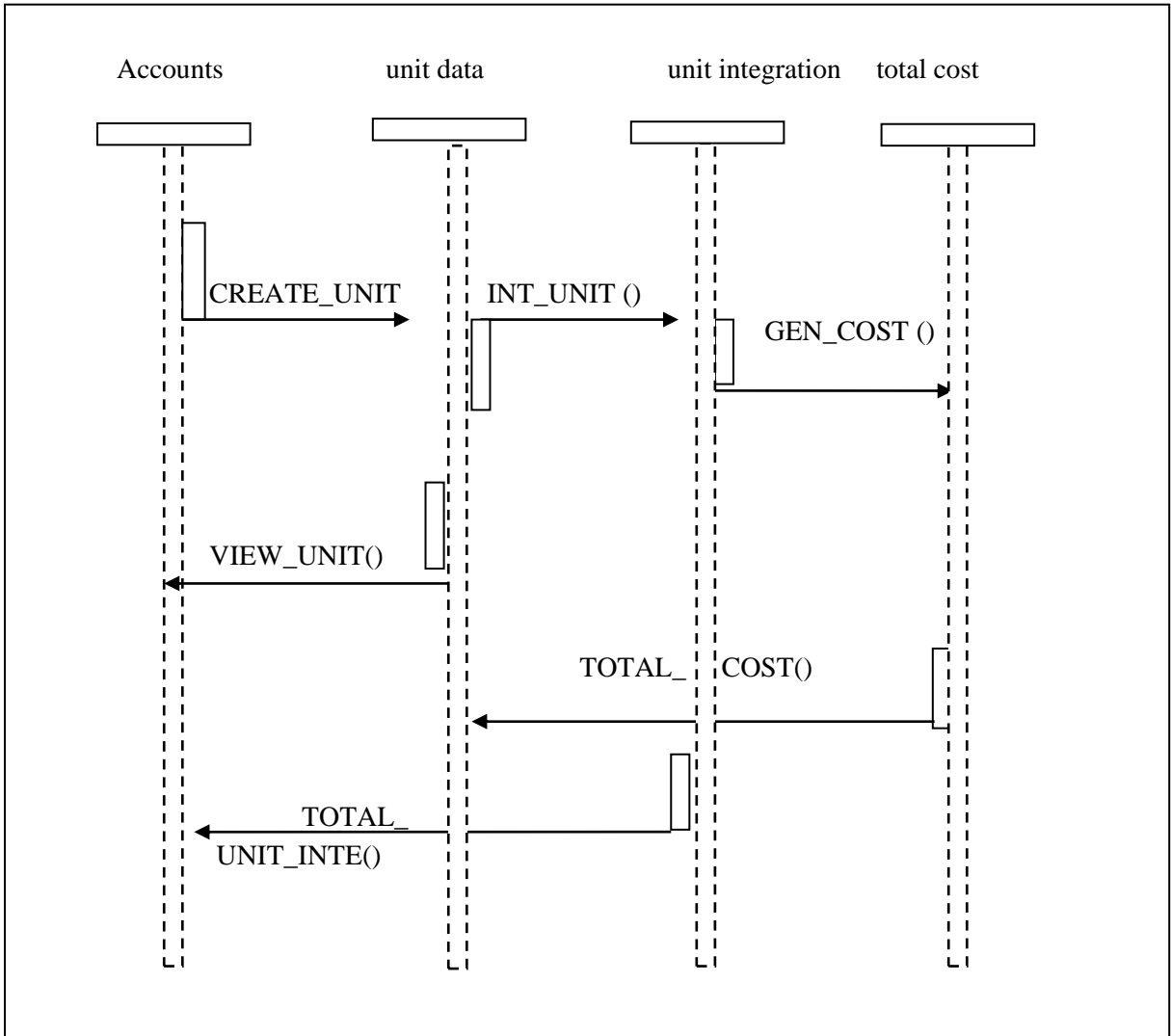
Fig 5.2.3: sequence diagram for accountant work.

The unit data state the divided work in the deigning application, this divide can be a cluster design or other part by part design made by the designer users. The accounting unit will calculate the total cost by integrating these divided works. If the same cluster s used two areas of design the cost will be calculated in those two area
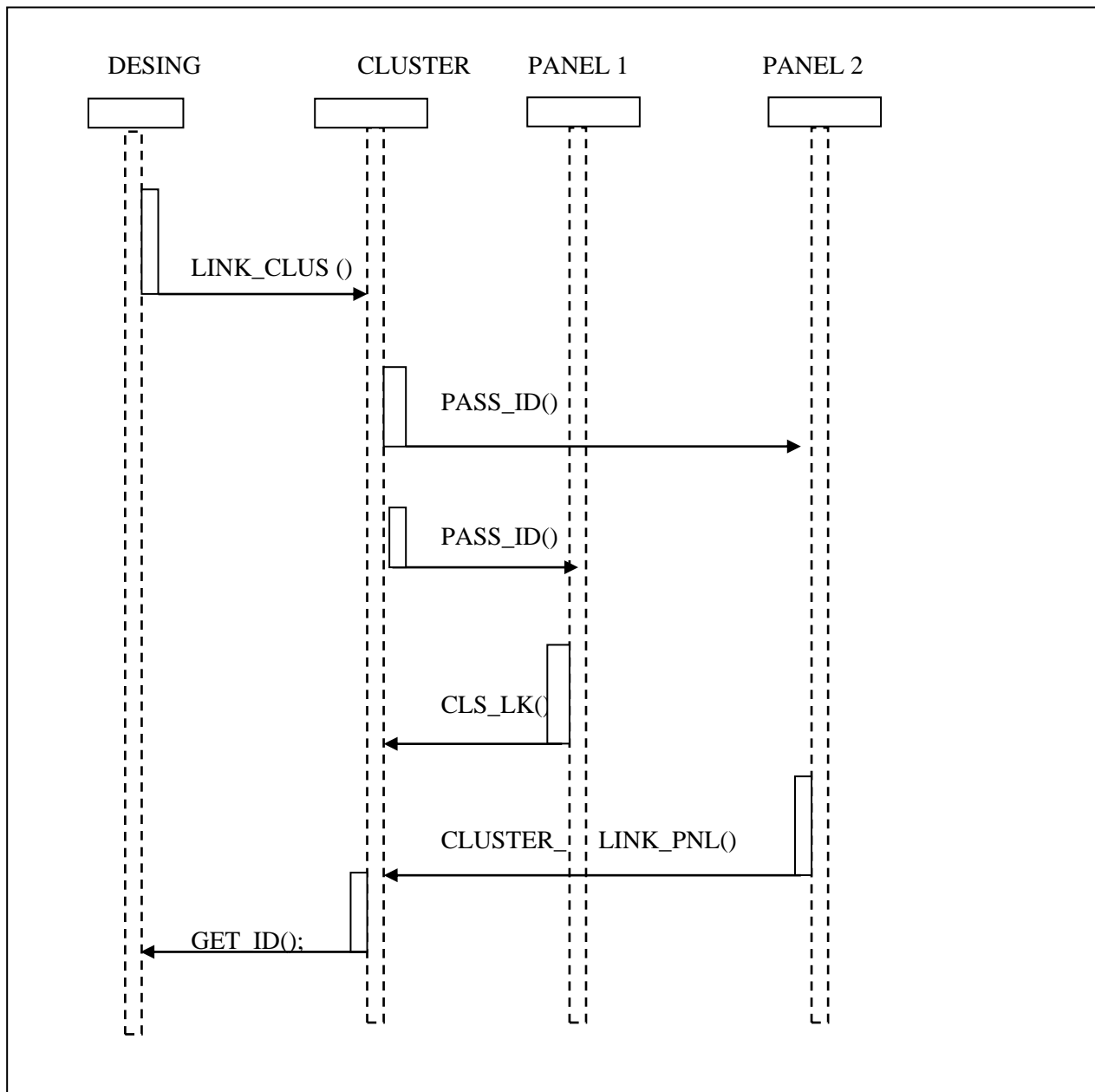
Fig 5.2.4: sequence diagram for cluster integration

This sequence diagram show how the same design used in the application is connected with other main design. Each cluster design will have the unique ID which is an auto generated one and from this unique ID the data of cluster will be linked with main design. If the same cluster design is use more than one panel the ID for the all panel will remains same.

5.3 COLLABORATION DIAGRAM
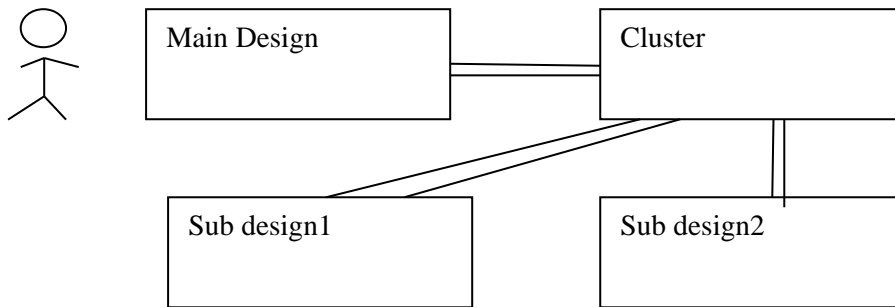
Fig 5.3.1: collaboration diagram for clustering of two sub design.
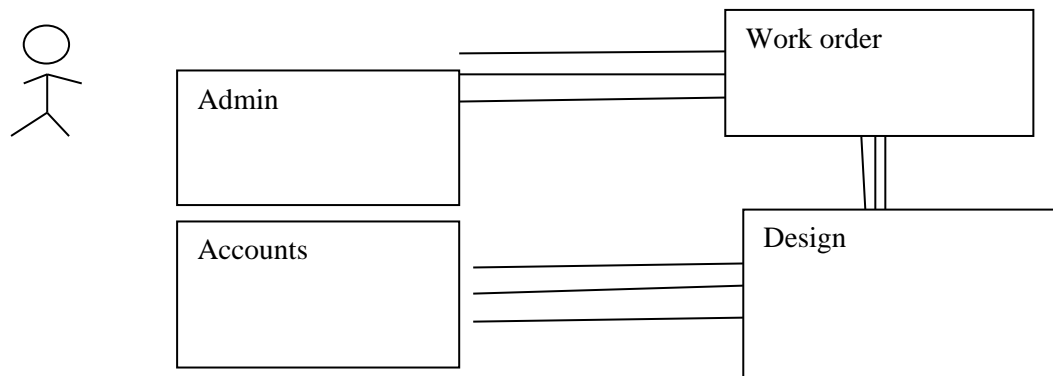
Fig 5.3.2: collaboration diagram for work order connection with accounts and design.
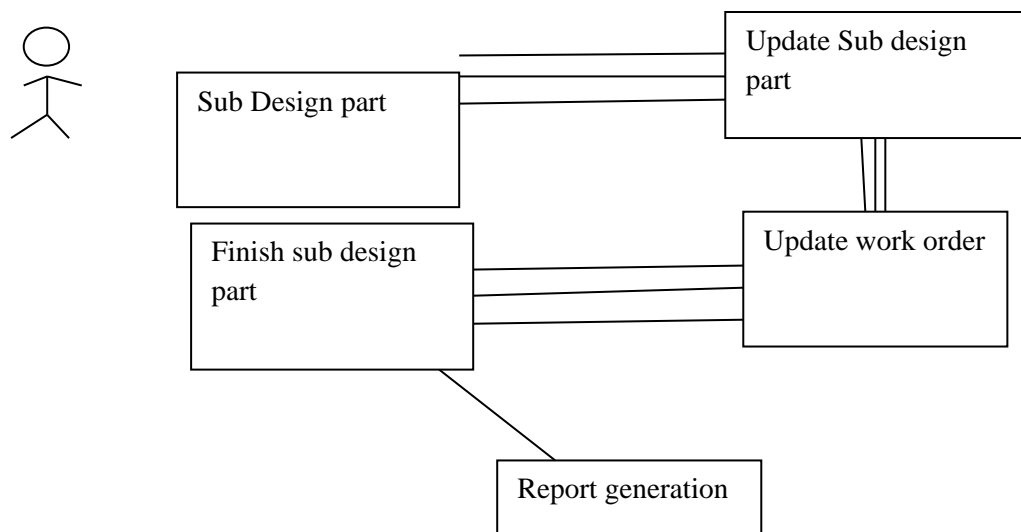
Fig 5.3.3: collaboration diagram for updates in cluster and it will be connected with other design.

5.4 ACTIVITY DIAGRAM
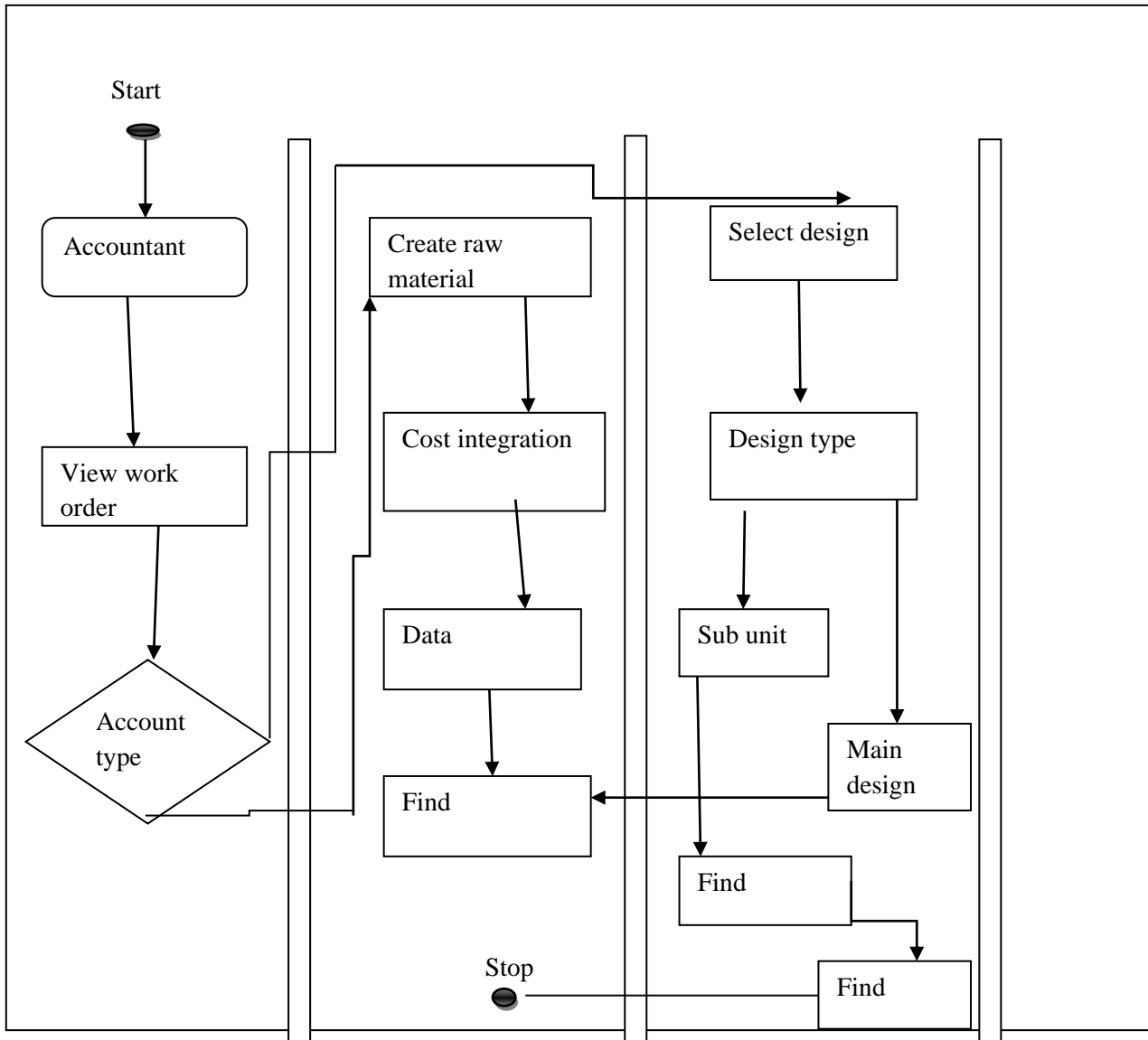
Fog 5.4.1: activity diagram for accountant

The accountant of the clustering design application has two type work, the cost value generating for the raw materials used for the production of the design and the second one is overall cost estimation for the entire design which includes the raw material the cluster technology used. Cluster design will calculate the overall cost by giving the account provided base product.
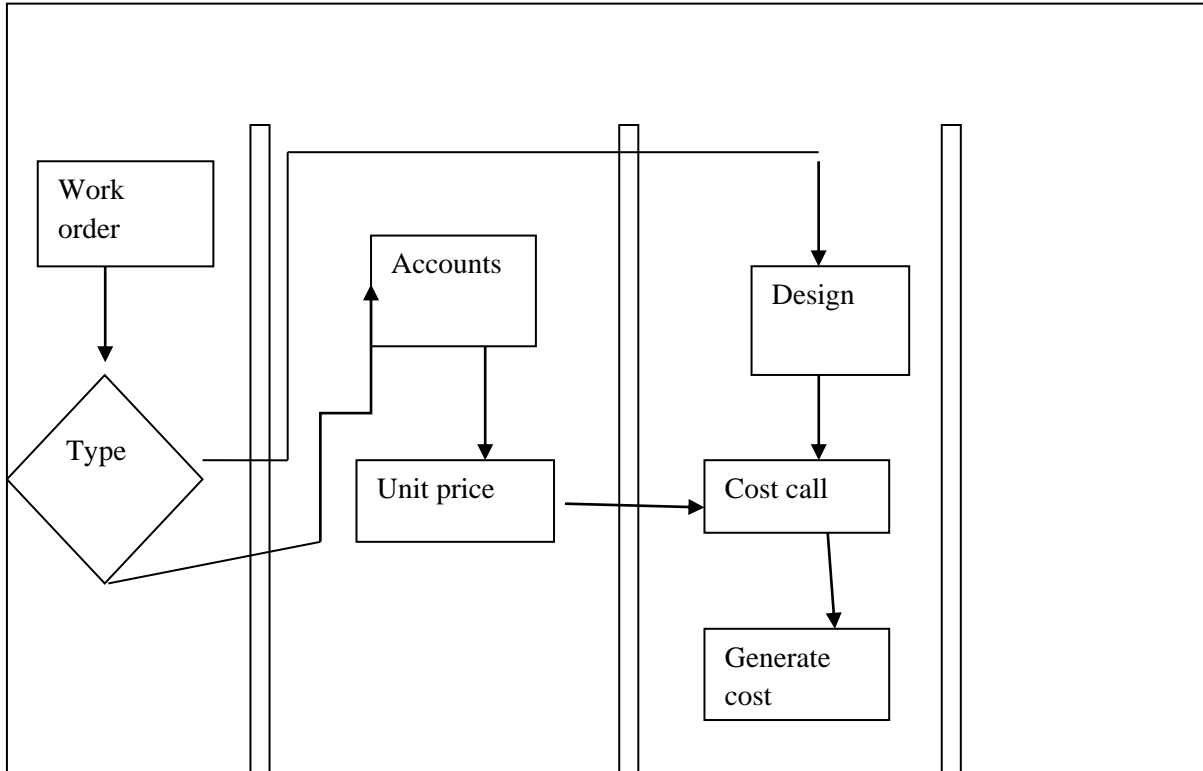
Fig 5.4.2: activity diagram in work order

The activity diagram show the design price planning over the type of the design. The accounts type has the control related to the each unit of the design. The unit can be a cluster saves design or a small divided design. The cost generated from the unit price design is passed to the main design for generating the overall cost.

5.5 DATABASE DESIGN

Name of the table: DBO. CR_MD_CLS_

Data type	Field name	Constrains
CR_MD_CLS_PROJECT_ID	INT PRIMARY KEY,	PRIMARY KEY,
CR_MD_CLS_PROJECT_NAME	VARCHAR(33),	NA
CR_MD_CLS_CATEGORY	VARCHAR(31),	NA
CR_MD_CLS_REMARK	VARCHAR(200)	NA

	Column Name	Data Type	Allow Nulls
🔑	CR_MD_CLS_PROJECT_ID	int	☐
	CR_MD_CLS_PROJECT_NAME	varchar(33)	☑
	CR_MD_CLS_CATEGORY	varchar(31)	☑
	CR_MD_CLS_REMARK	varchar(200)	☑
			☐

Name of the table: DBO.CR_MD_CLS_BOOKING_INFO

Data type	Field name	Constrains
CR_MD_CLS_ID	INT	PRIMARY KEY,
CR_MD_CLS_BOOKNUM	CHAR(7),	NA
CR_MD_CLS_APPROX_COST	FLOAT,	NA
CR_MD_CLS_AGNET_NAME	VARCHAR(21),	NA
CR_MD_CLS_SECTOR	VARCHAR(23)	NA

Column Name	Data Type	Allow Nulls
CR_MD_CLS_ID	int	☐
CR_MD_CLS_BOOKNUM	char(7)	☑
CR_MD_CLS_APPROX_COST	float	☑
CR_MD_CLS_AGNET_NAME	varchar(21)	☑
CR_MD_CLS_SECTOR	varchar(23)	☑
		☐

Name of the table: DBO.CR_MD_CLS_CLIENT_DETAILS.

Data type	Field name	Constrains
CR_MD_CLS_ID	INT PRIMARY KEY,	PRIMARY KEY,
CR_MD_CLS_CLIENT_ID	VARCHAR(23),	NA
CR_MD_CLS_CLIENT_NAME	VARCHAR(24),	NA
CR_MD_CLS_REG_NUMBER	VARCHAR(25),	NA
CR_MD_CLS_AGREEEMENT_COST	FLOAT	NA

Column Name	Data Type	Allow Nulls
CR_MD_CLS_ID	int	☐
CR_MD_CLS_CLIENT_ID	varchar(23)	☑
CR_MD_CLS_CLIENT_NAME	varchar(24)	☑
CR_MD_CLS_REG_NUMBER	varchar(25)	☑
CR_MD_CLS_AGREEEMENT_COST	float	☑
		☐

Name of the table: DBO.CR_MD_CLS_COST_INFO_1.

Data type	Field name	Constrains
CR_MD_CLS_ID	INT	PRIMARY KEY,
CR_MD_CLS_CARPET_AREA	FLOAT	NA
CR_MD_CLS_RATE_P_SQFT	FLOAT	NA
CR_MD_CLS_BLOCK_AREA	FLOAT	NA
CR_MD_CLS_RAW_MTR_ID	INT	NA

Name of the table: `DBO. CR_MD_CLS_COST_INFO_2`

Data type	Field name	Constrains
CR_MD_CLS_ID	INT	PRIMARY KEY,
CR_MD_CLS_RAW_MTR_ID	INT	NA
CR_MD_CLS_ITEM_NAME	VARCHAR(17),	NA
CR_MD_CLS_UNIT_PRICE	FLOAT,	NA
CR_MD_CLS_RAW_TOTAL_PRICE	FLOAT	NA

Schema
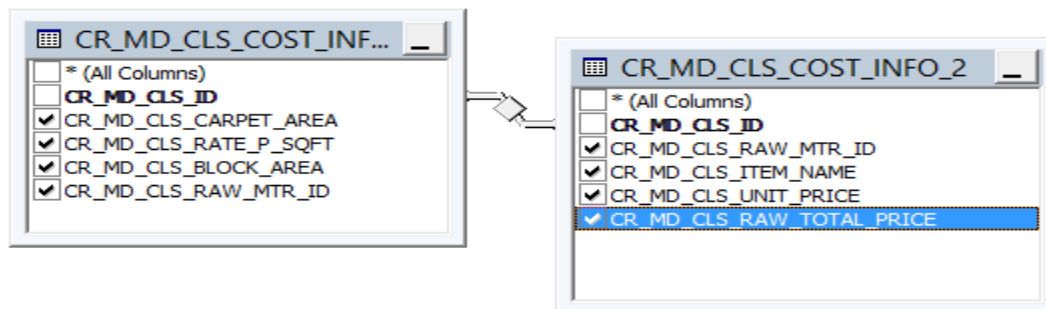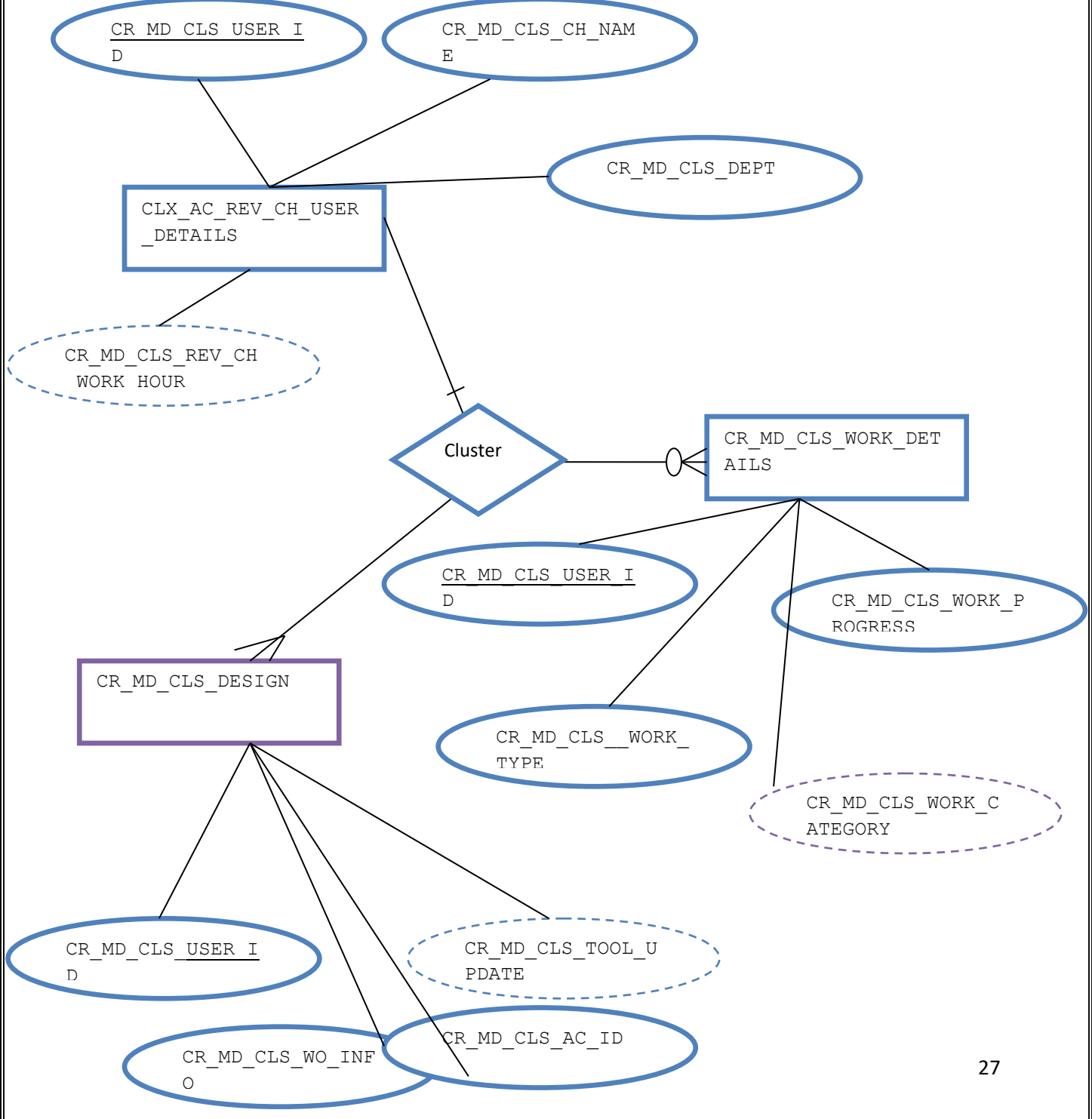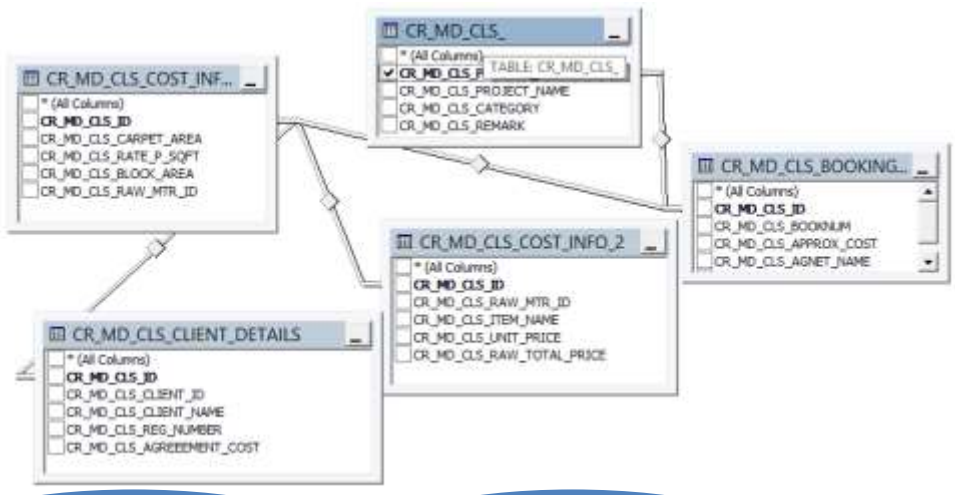
6. IMPLEMENTATION

6.1 SCREENSHOT

The application is focusing over the different application integration with network oriented middleware integrations. So the interns are needed to study on the different technologies used in the multi middleware integration along with clustering implementations.
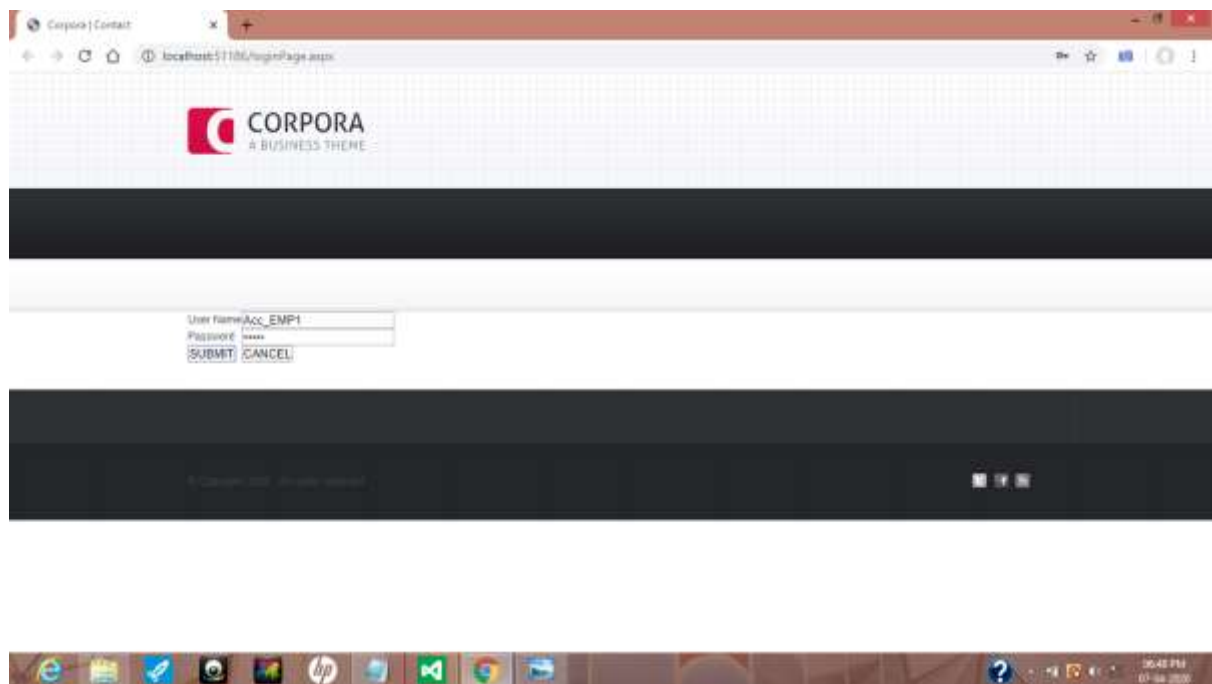
Fig 1: log in page

Developing tools

ASP for the front end based integration

AJAX to avoid the auto post back occurred during the clustering data load

SQL for data storage (for the non cluster or data size less than 64 KB)

Data set for the temporary data storage for the design loaded

VM ware :- for the creating the virtual developing environment in the non clustering module system

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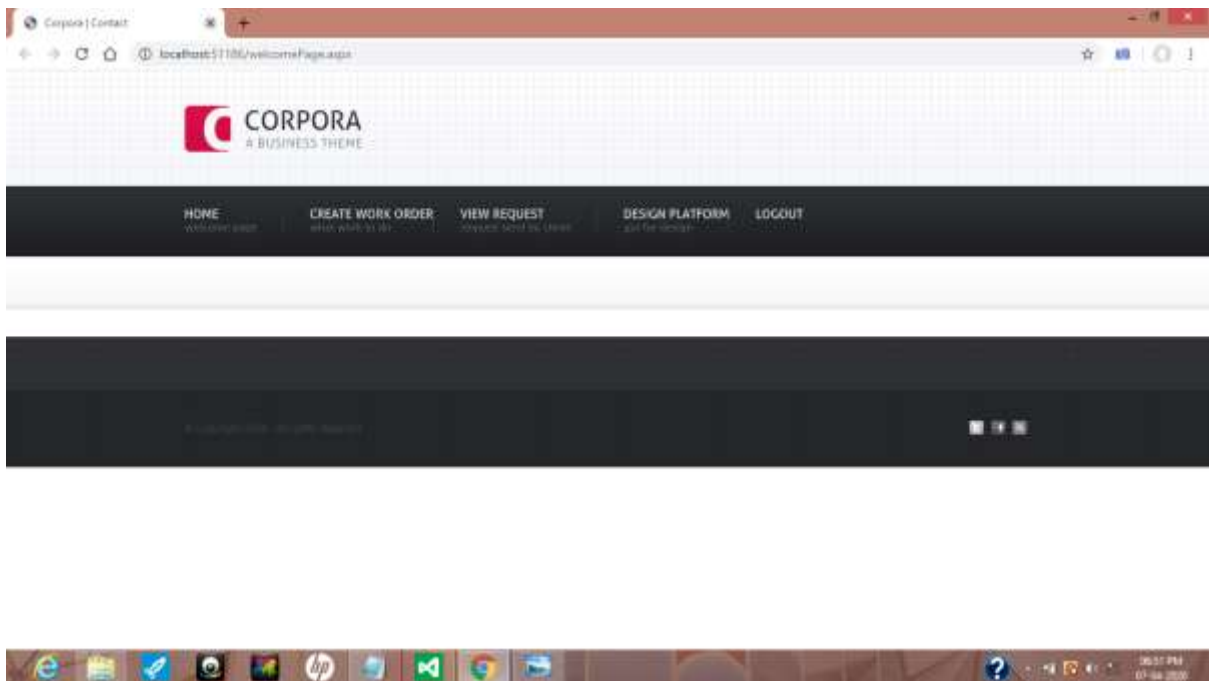
Fig 2: the welcome page

Before the clustering technology the developers are needed to find the area where the module to module integration is occurring. The method of module to module integration is created on the basis of the clustering design methods and also for non clustering design methods .
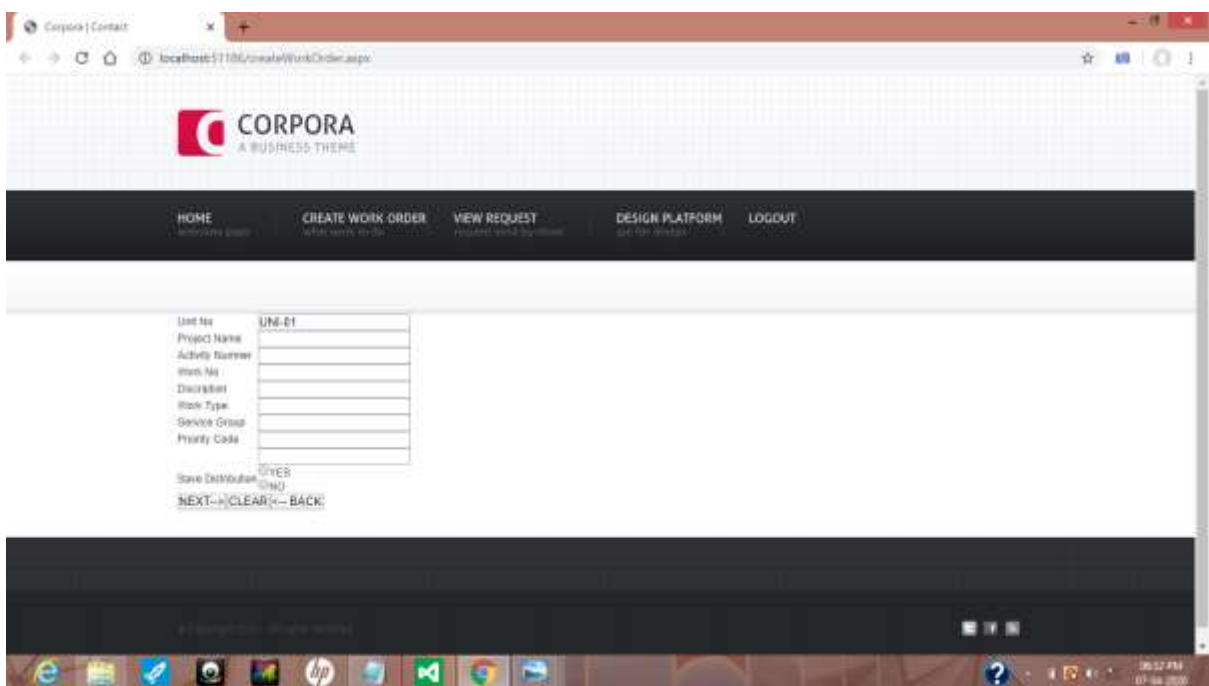
Fig 3: create work order

The major difference over the clustering method and non clustering are in the size of the data to be integrated. That is if the cluster based design is used then high end design are called data integrations and in the non clustering the data over the accounting particular will be used for the migrations.
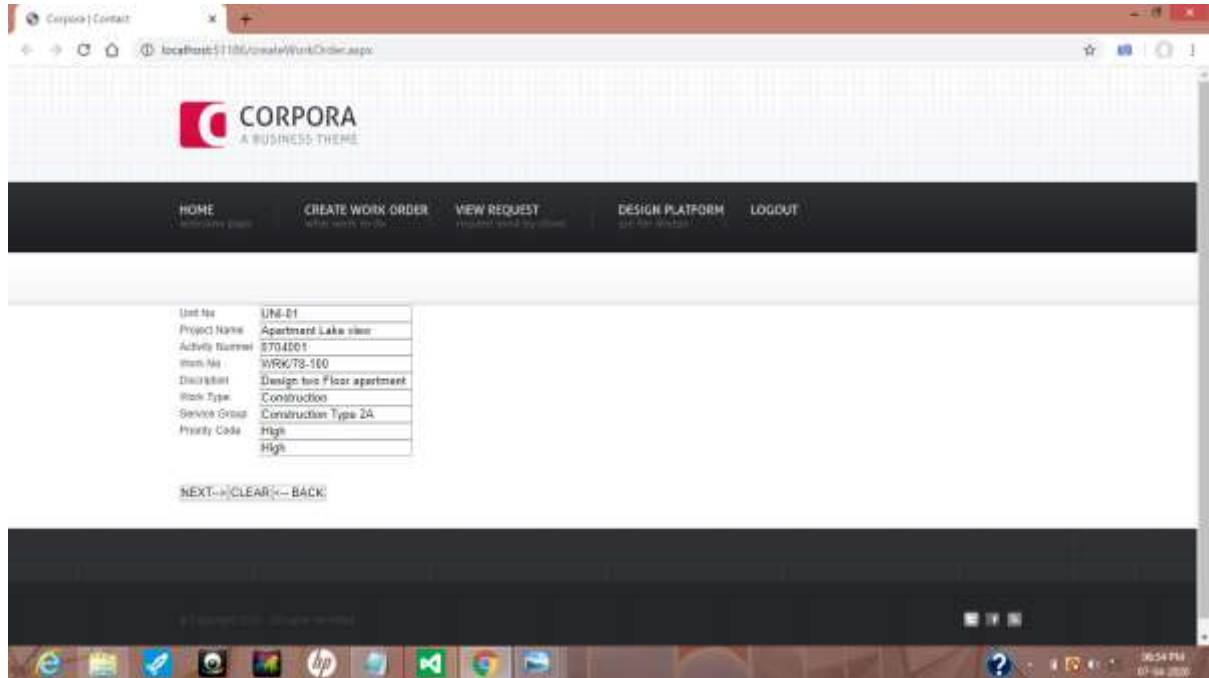
Fig 4:   work order page with user entered data.

Interns are needed to write code for the file extension finding. If the file extension is ASPX then the call non clustering module and if file not equal to ASPX then call clustering module.
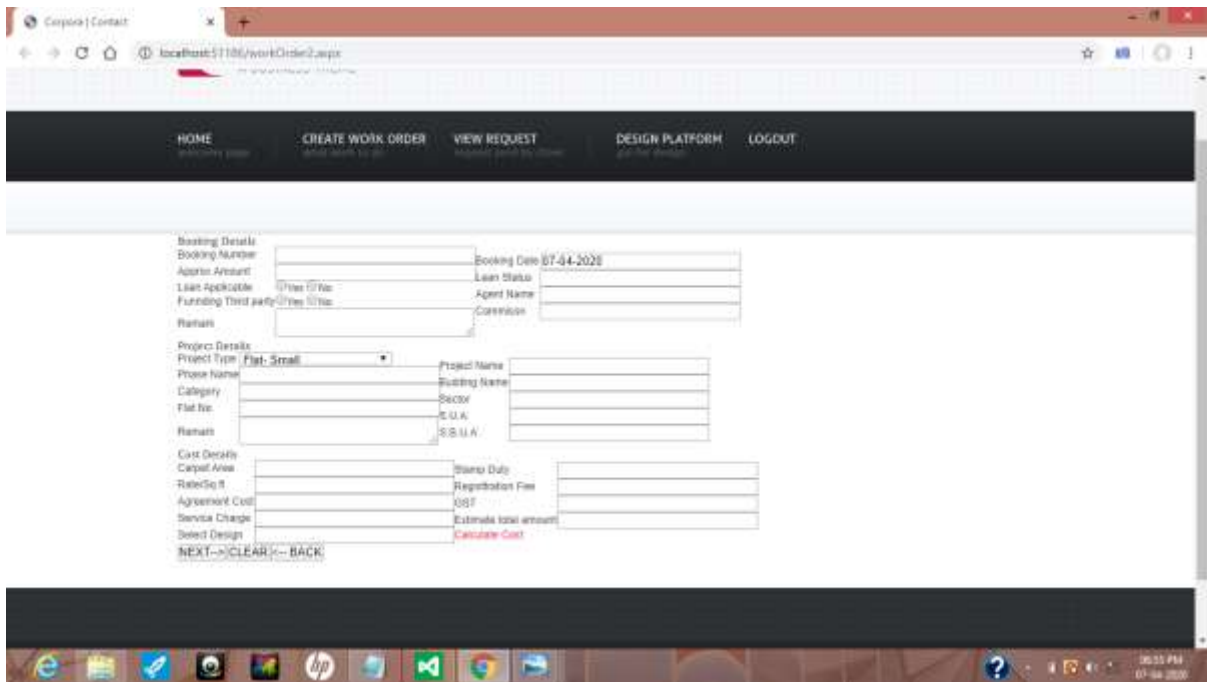
Fig 5: work order extension

For the file extension ASPX call the method to convert to machine language , call the source machine and check extension if the source extension is not equal to ASPX convert to machine language. Call the connection string by passing the URL , use session based or query string based storage if any storage is required, the connection string will do further communication between the source and destination integrations.
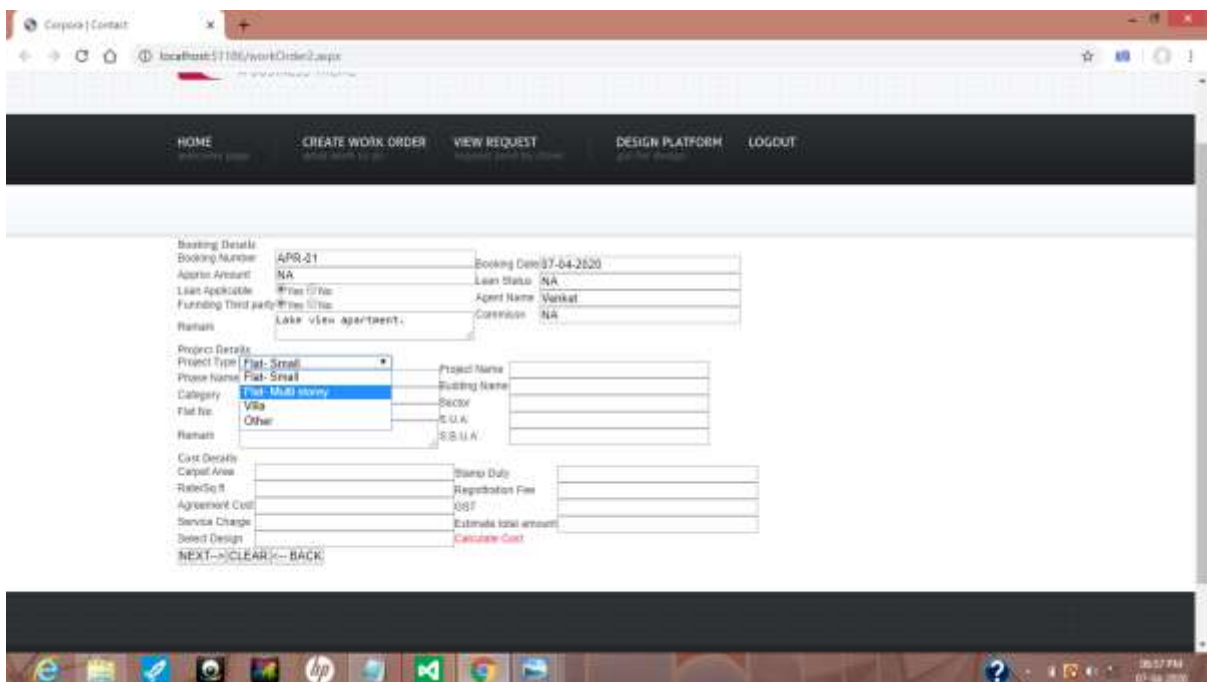
Fig 6: selecting the category of design.

If the extension is not equal to ASPX call method to find the size of the data, if the size is less than 64 KB then call method for the machine language conversion and follow above format for the further integrations
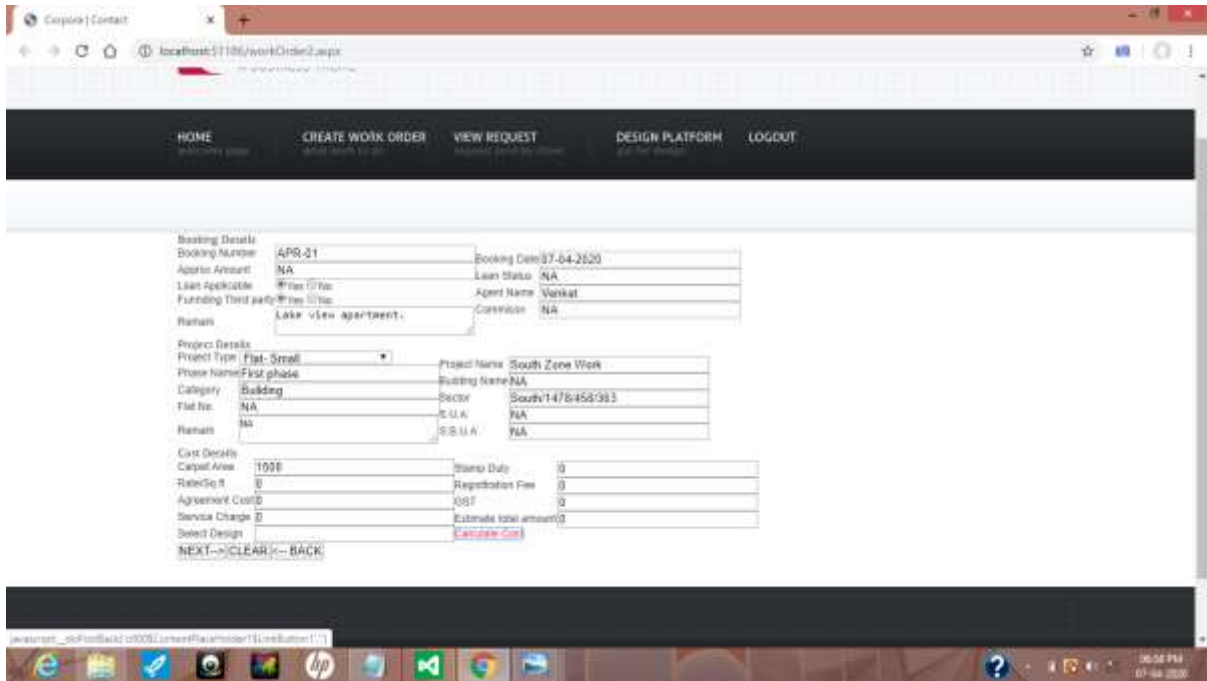
Fig 7: the page filled with data

If the size is greater than 64KB (it means the console application with design) is used for the method communication. Here converting to machine language is recommended since this will make process more complicated and the chance of error occurring is high.
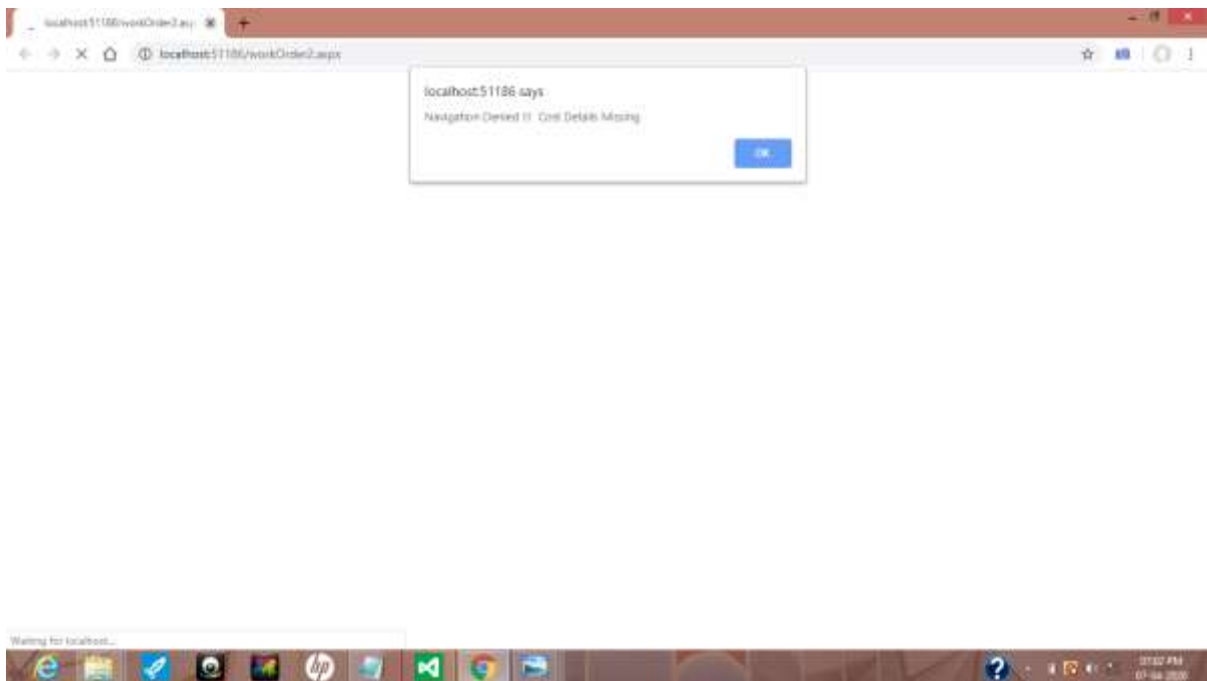
Fig 8: since user do not give the cost details the migration is denied. Click cost calculation link button.

So the interns are required to write code to call the JAVA complier in ASP .net and make the further communications. The method to write code to find extension is code in the first stage and only JAVA based design is loaded in the module.
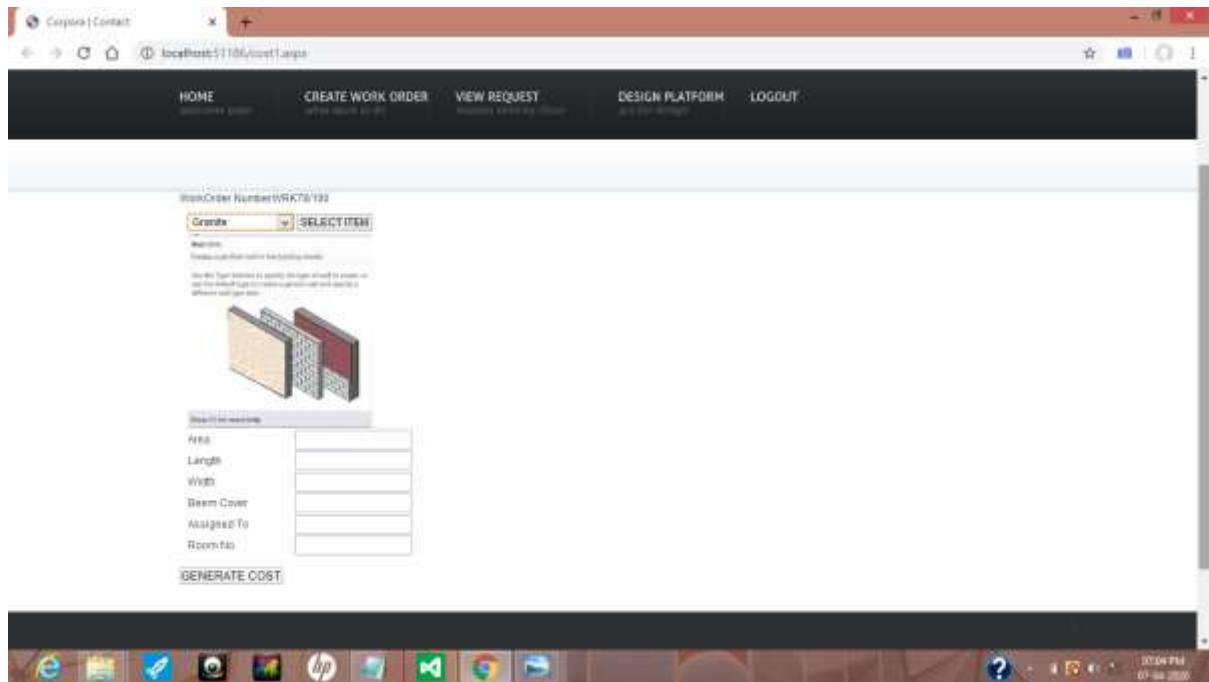
Fig 9:   cost planning details.

If the design is ASP or dot net based then JAVA complier is not required the direct communication with in the solution explore is possible

Fig 10: the select the raw material used for the design.
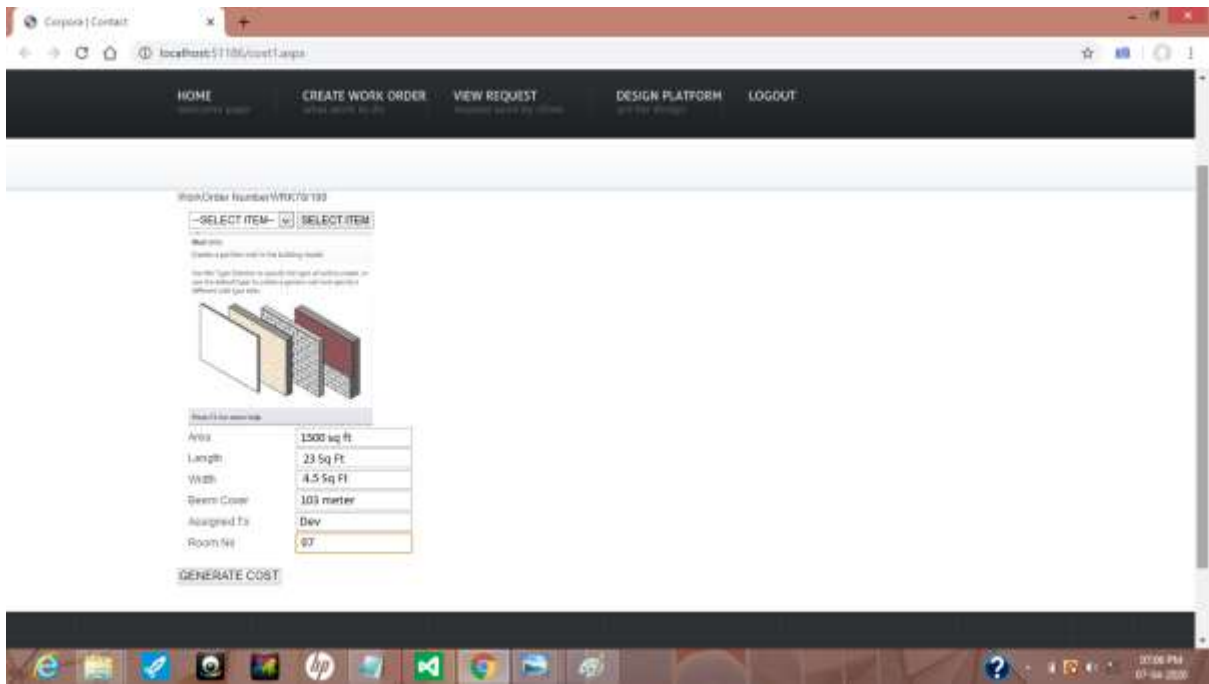
Fig 11: the auto filled inputs from the user given data.
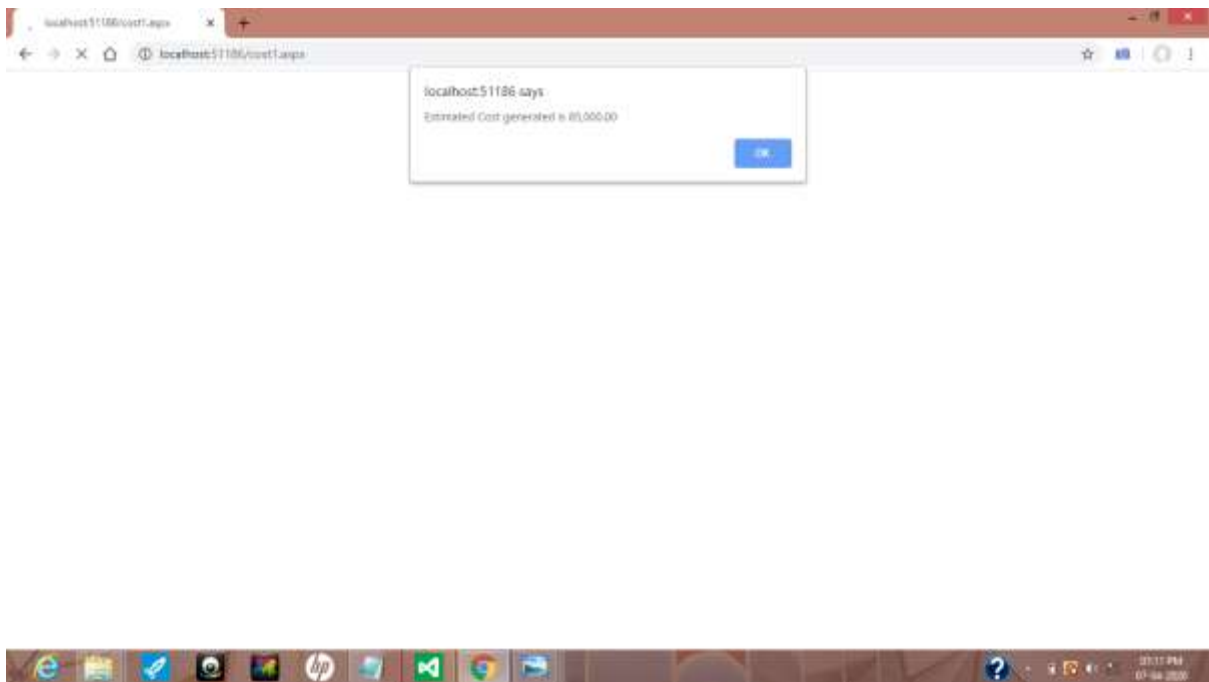
Fig 12: shows estimated cost is 85,000.00. when different raw material is used different cost details will be loaded.
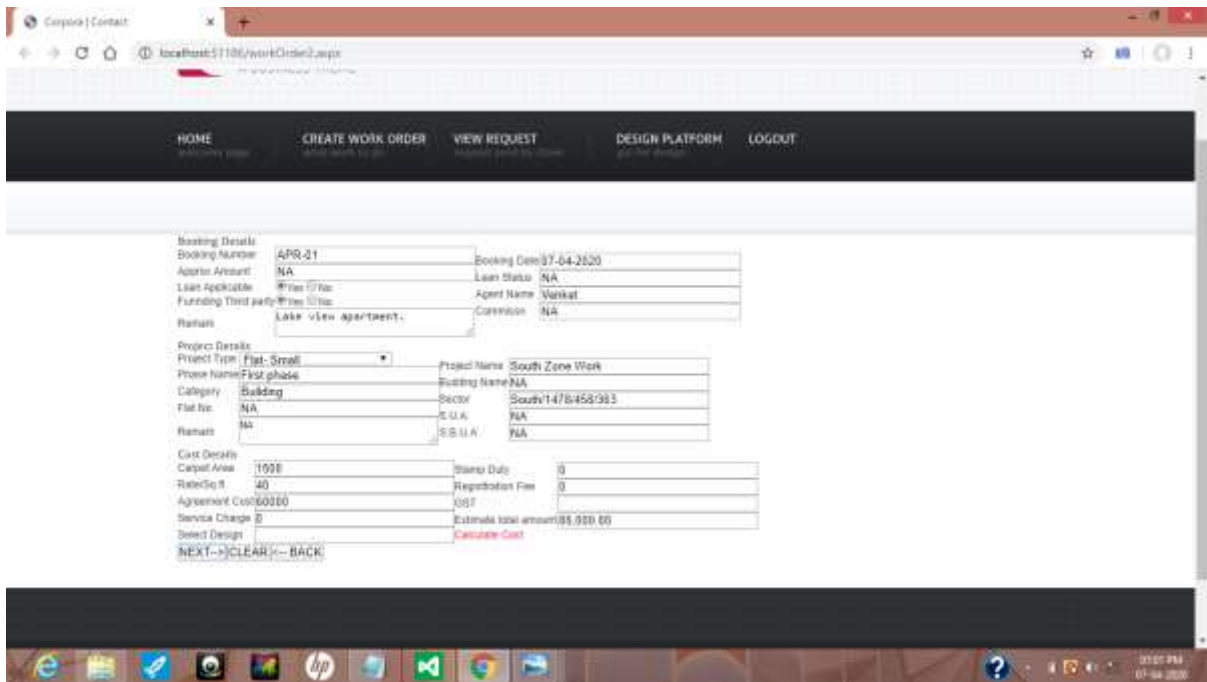
Fig 13: reached the previous page and now when user clicks the next button the application will migrate to next page.
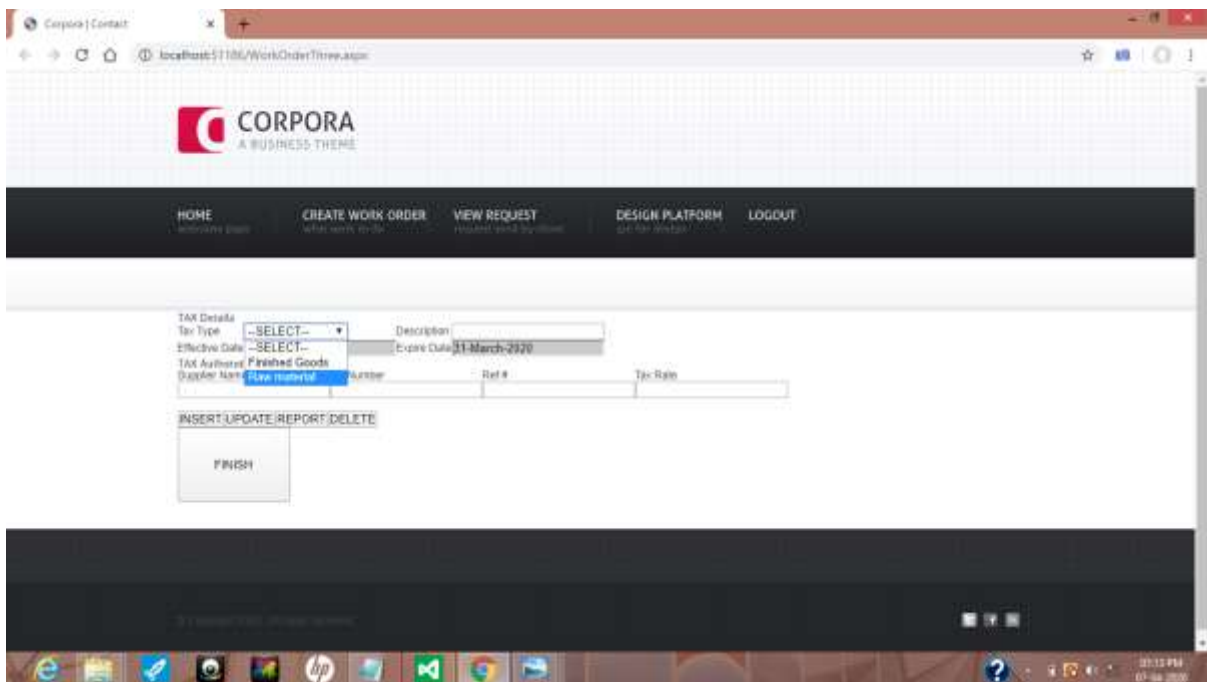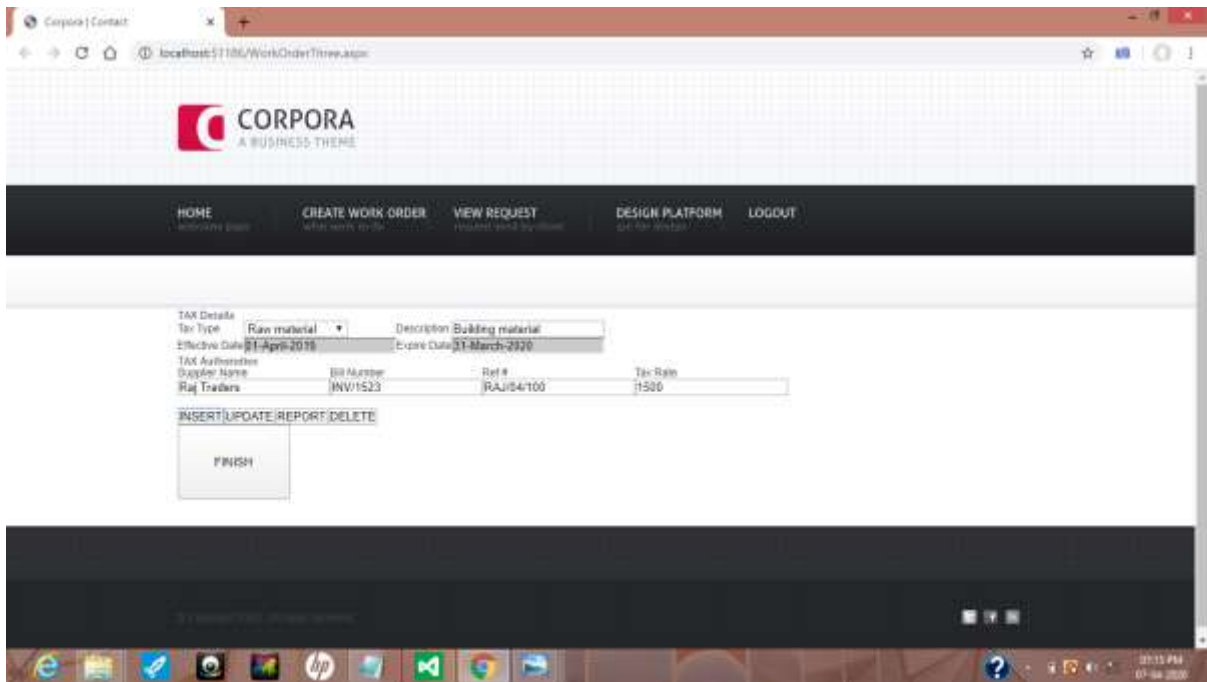

Fig 14: select the raw material

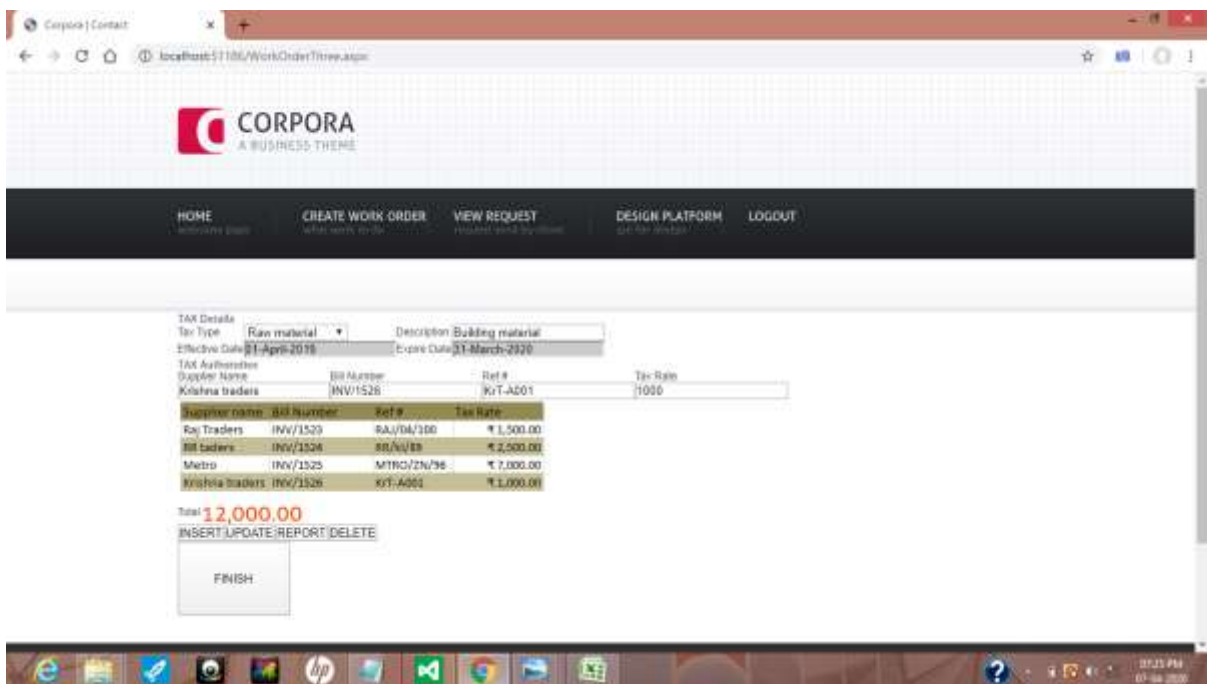Fig 15: fill the details and click the insert button.

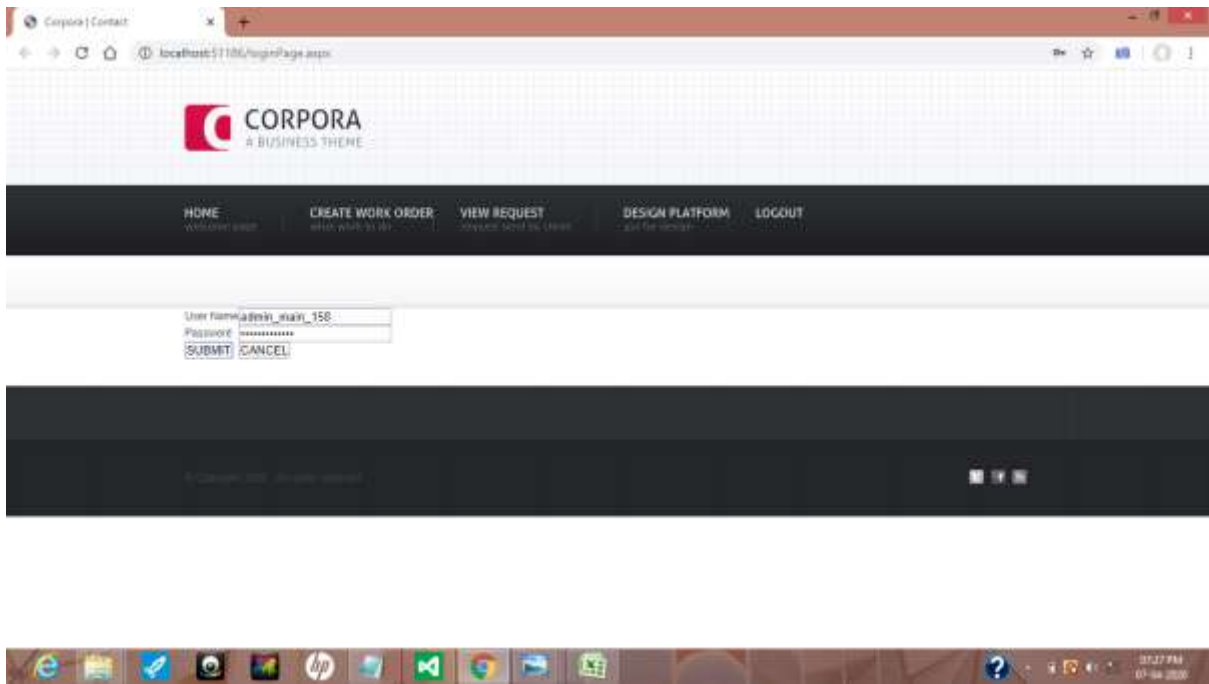Fig 16: after inserting the details total cost will be loaded in the page.

Fig 17: after the raw material data are inserted the design page with clustering technology implemented will be loaded.
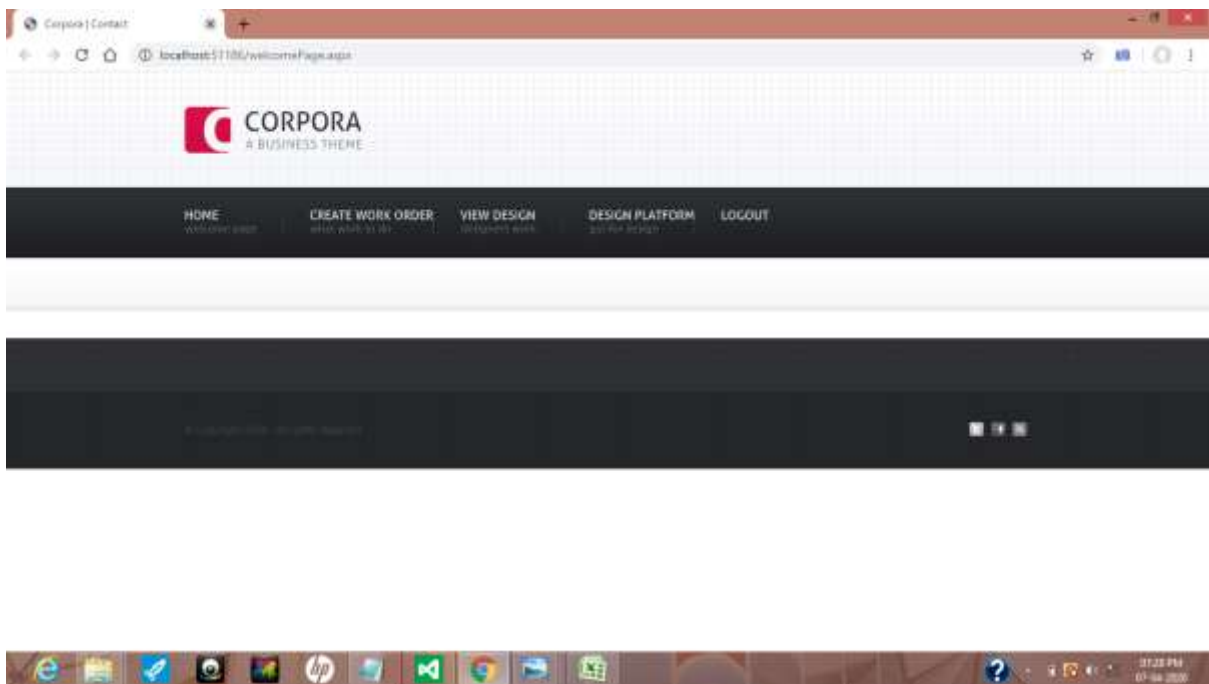

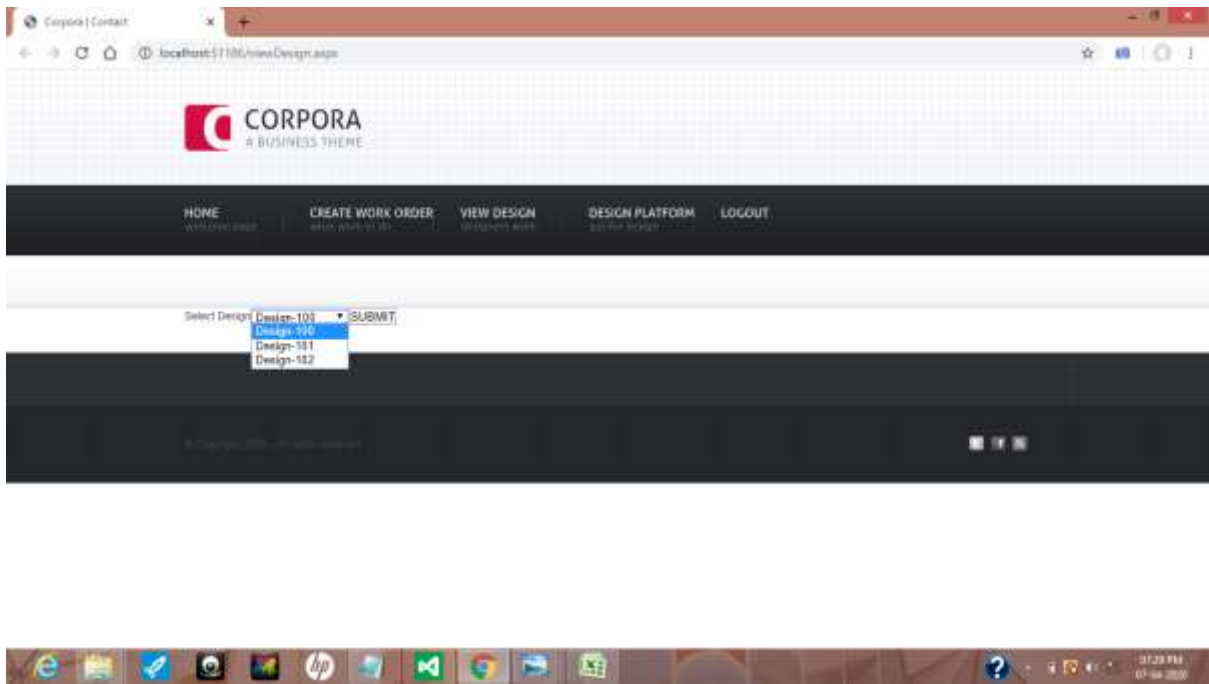Fig 18:the welcome page for the design based activities.
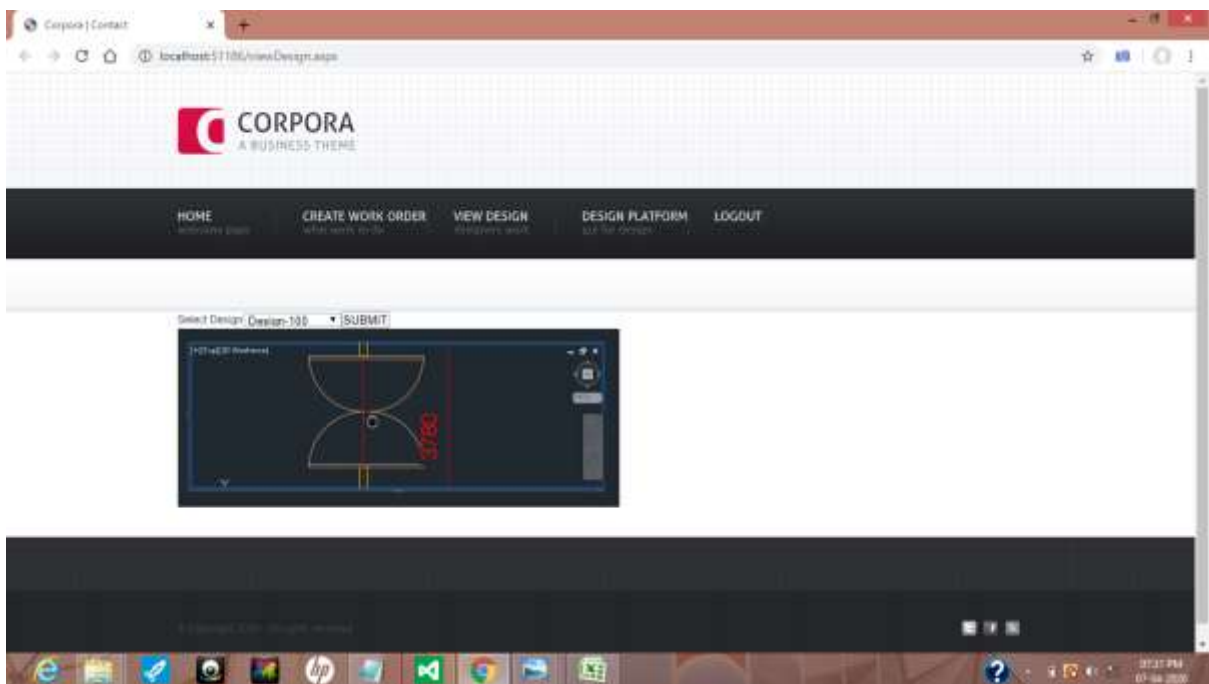
Fig 19: select the design.

Fig 20: the selected design is loaded in the page. Click the submit button.
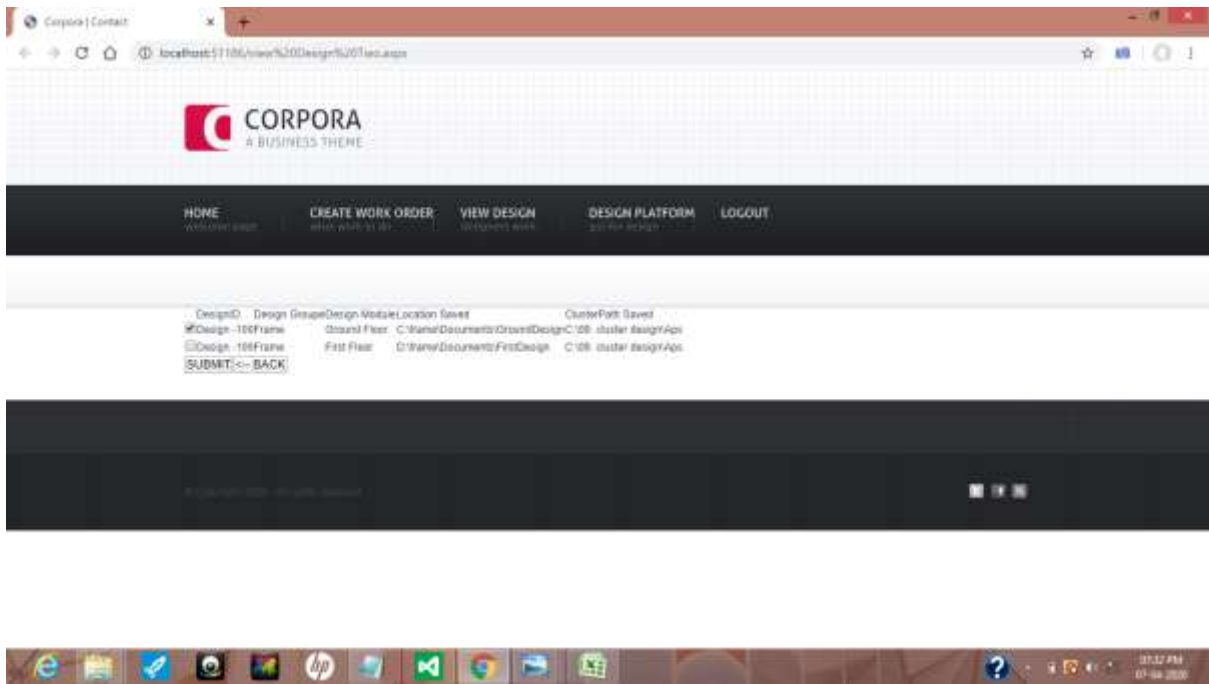
Fig 21: the selected design is used in two different area of the main product. Now the user can view the area where the design is used .select the first deign and click the submit button.
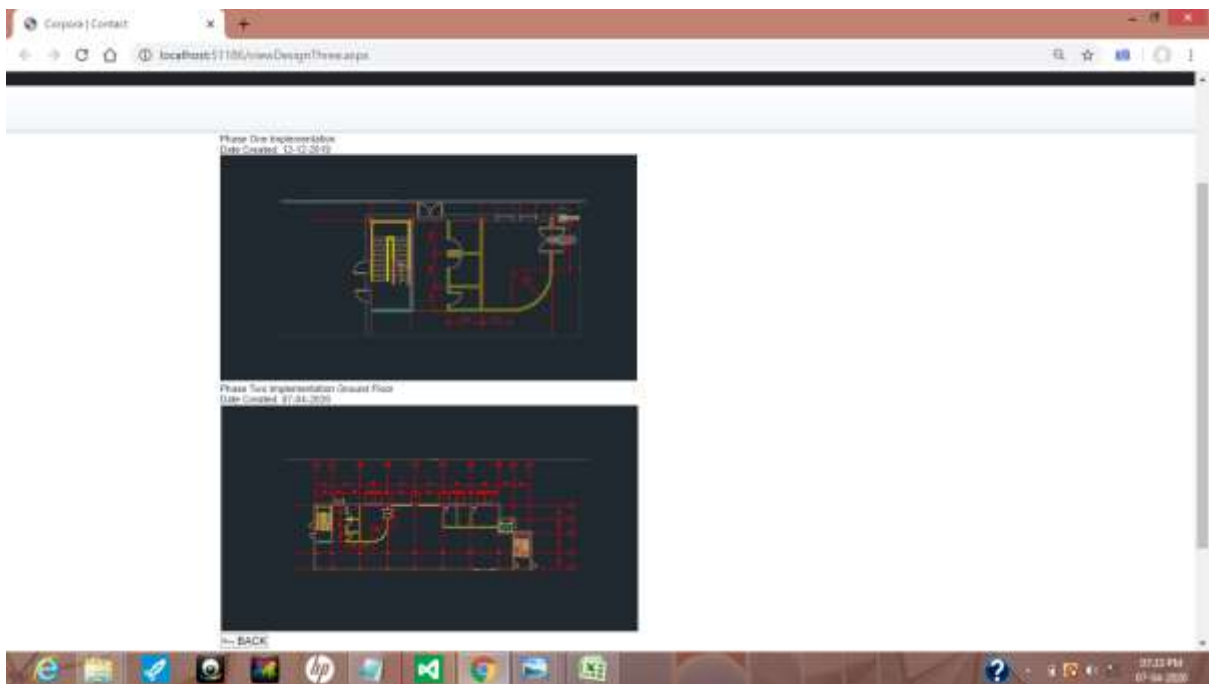

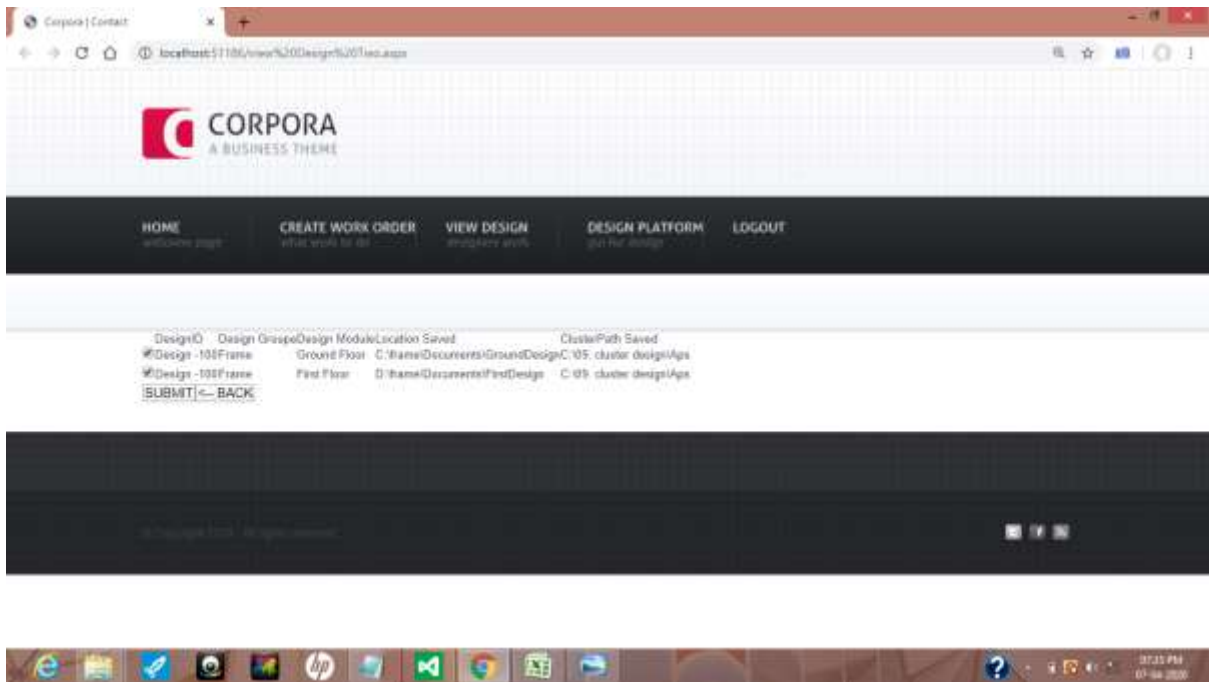Fig 22: the selected design and the main design where the design is used is showed.

Fig 23: after clicking the back button the user select the both design and click the submit button.
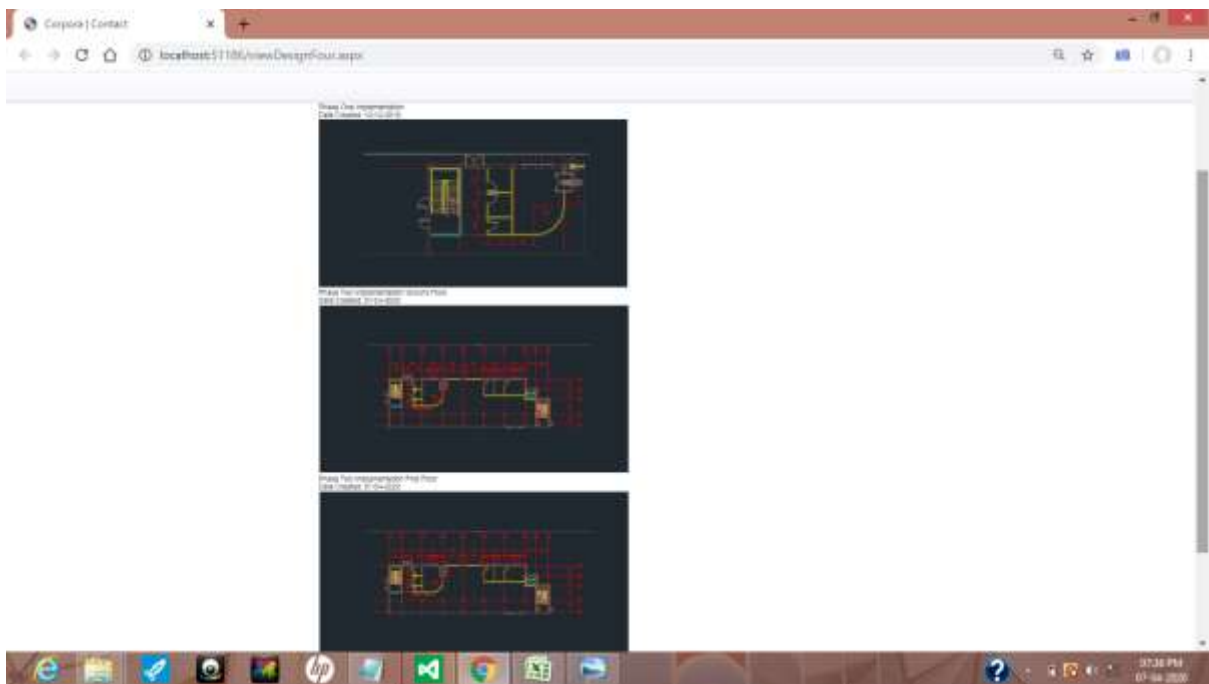

Fig 24:this application shows the two areas of ground floor and the first floor where the selected design is implemented. The cluster technology will save the sub design in a single area and the other two design will using the same design by clustering technology. So that application do not need two different area to save the same design used in multiple panel.

7.SOFTWARE TESTING

7.1 TESTING

Test case name	Test area
Page to test	Area ASPX page
Attempt number	First

| Filed test	The parameter	Value	Test status
TXT_CR_MD_CLS_ID	@CR_MD_CLS_ID	**CL1**	TXT_CR_MD_CLS_ID must show the value **CL1**
TXT_CR_MD_CLS_CARPET_AREA	@CR_MD_CLS_CARPET_AREA	**754**	TXT_CR_MD_CLS_CARPET_AREA must show the value **754**
TXT_CR_MD_CLS_RATE_P_SQFT	@CR_MD_CLS_RATE_P_SQFT	**12**	TXT_CR_MD_CLS_RATE_P_SQFT must show the value **12**
TXT_CR_MD_CLS_BLOCK_AREA	@CR_MD_CLS_BLOCK_AREA	**36**	TXT_CR_MD_CLS_BLOCK_AREA must show the value **36**
TXT_CR_MD_CLS_RAW_MTR_ID	@CR_MD_CLS_RAW_MTR_ID	**RW1**	TXT_CR_MD_CLS_RAW_MTR_ID must show the value **RW1**
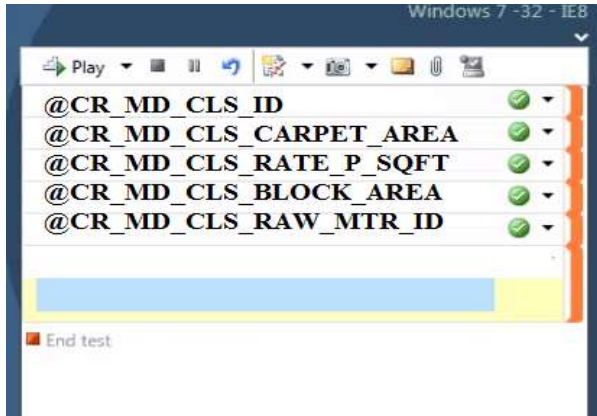
The parameter	Test result	Test status
@CR_MD_CLS_ID	TXT_CR_MD_CLS_ID showed the value **CL1**	Success
@CR_MD_CLS_CARPET_AREA	TXT_CR_MD_CLS_CARPET_ARE A showed the value **754**	Success
@CR_MD_CLS_RATE_P_SQFT	TXT_CR_MD_CLS_RATE_P_SQFT showed the value **12**	Success
@CR_MD_CLS_BLOCK_AREA	TXT_CR_MD_CLS_BLOCK_AREA showed the value **36**	Success
@CR_MD_CLS_RAW_MTR_ID	TXT_CR_MD_CLS_RAW_MTR_I D showed the value **RW1**	Success

Test case name	NULL value Test area
Page to test	Area ASPX page
Attempt number	Second

Filed test	The parameter	Value	Test status
TXT_CR_MD_CLS_ID	@CR_MD_CLS_ID	**NULL**	TXT_CR_MD_CLS_ID cannot show the value **NULL**
TXT_CR_MD_CLS_CARPET_AREA	@CR_MD_CLS_CARPET _AREA	**NULL**	TXT_CR_MD_CLS_CARPE T_AREA cannot show the value **NULL**
TXT_CR_MD_CLS_RATE_P_SQFT	@CR_MD_CLS_RATE_P _SQFT	**NULL**	TXT_CR_MD_CLS_RATE_ P_SQFT cannot show the value **NULL**
TXT_CR_MD_CLS_BLOCK_AREA	@CR_MD_CLS_BLOCK_ AREA	**NULL**	TXT_CR_MD_CLS_BLOCK _AREA cannot show the value **NULL**
TXT_CR_MD_CLS_RAW_MTR_ID	@CR_MD_CLS_RAW_M TR_ID	**NULL**	TXT_CR_MD_CLS_RAW_ MTR_ID cannot show the value **NULL**
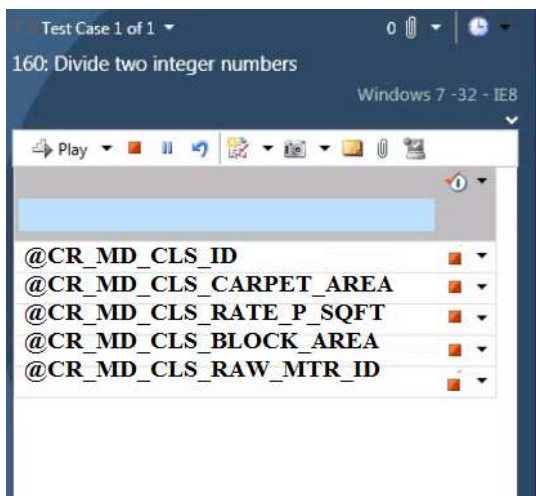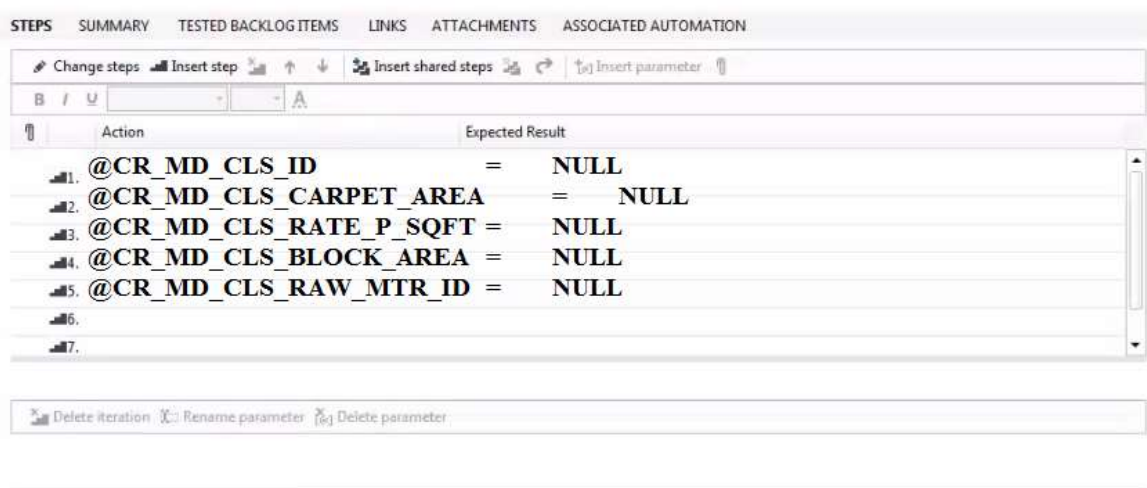
The parameter	Test result	Test status
@CR_MD_CLS_ID	TXT_CR_MD_CLS_ID showed null value not supported	Success
@CR_MD_CLS_CARPET_AREA	TXT_CR_MD_CLS_CARPET_ARE A showed null value not supported	Success
@CR_MD_CLS_RATE_P_SQFT	TXT_CR_MD_CLS_RATE_P_SQFT showed null value not supported	Success
@CR_MD_CLS_BLOCK_AREA	TXT_CR_MD_CLS_BLOCK_AREA showed null value not supported	Success
@CR_MD_CLS_RAW_MTR_ID	TXT_CR_MD_CLS_RAW_MTR_I D showed null value not supported	Success

8. CONCLUSION

The domain of design and high level design application needed massive storage area for the data storage. So developers implement the new technology of clustering technology for design based merging and store in the SQL server. This application can be implemented to the domain where the repeated design s used for parent design. The building construction is the area where the similar design pattern is called. When the designer design three floor building the outline and the beam area for the all the floor will be same. So instead of creating many unit design the application will use the clustering technique where the similar design in different floor are merge together. When the sub design are made in each floor and if there are many similar sub design included the nested clustering technology can be used for storage.

9. FUTURE ENHANCEMENT

In the future enhancement the technology of clustering technology can be used in the domain of video and audio embedding. For news telecasting agency and the organisation with live streaming the technology of cluttering can be efficiently used. Let us take example of same news telecasting in different language where the video content remains same but the audio streaming and recording are made separately . Here with implementation of clustering technology the application will save the video needed for streaming in single file and the multiple videos will be saved in the clustering node.

USER MANUAL

The serve side installation

Visual studio for the integrating the development environment

- 2015 ultimate version
- Inbuilt SQL server 2014
- Team Foundation server

Server side for .NET frame work

- IIS server for active server page running.
- Code converge

Procedure of IIS activation

Go to control panel ⟶ program and features ⟶ turn windows feature "ON" activate the Internet information Services

Right click on the server manager ⟶ Add Roles ⟶ click next and ⟶ activate the check box web server IIS

Team viewer

Note down Team viewer ID

Uninstall the antivirus (It may give an error message of team view)

If cannot uninstall right click turn off antivirus by right clicking on it.

Install the SQL server

Configuration of the SQL server

SQL Server configuration ⟶ manager ⟶ SQL server (browser) right click on SQL server the properties

Start mode ⟶ change to automatic ⟶ apply and click ok

SQL server ⟶ network connection ⟶ protocols TCP / IP ⟶ enables ⟶ right click and restart system

Create user : open SQL server (with windows authentication mode)

New query

Create login

Enter user name

Password

Right click database restore files and file stores from the drive

Bibliography

For more information on modularity in Mileage Stats, see Chapter 5, "Modularity."

For more information about the pub/sub implementation in Mileage Stats, see Chapter 8, "Communication."

For more information about navigation and the layout manager, see Chapter 9, "Navigation."

For more information about data management and caching, see Chapter 6, "Client Data Management and Caching."

For more information about the libraries and guidelines discussed in this chapter, see the following:

jQuery:
http://jquery.org

jQuery Templates:
http://api.jquery.com/category/plugins/templates/

Backbone.js:
http://documentcloud.github.com/backbone/

Knockout.js:
http://knockoutjs.com/

SproutCore:
http://www.sproutcore.com

YUI:
http://developer.yahoo.com/yui

Dojo Toolkit:
http://dojotoolkit.org