CAPSTONE PROJECT REPORT

(Project Term August-December 2018)

RESOEXPO

Submitted by:

Shubham Singh	**Registration Number : 11507002**
Vinay Prajapati	**Registration Number : 11604425**
Himanshu Kashyap	**Registration Number : 11500868**
Ahutosh Dubey	**Registration Number : 11503986**
Abhishek Guleria	**Registration Number : 11503919**

Project Group Number: CSERGC0367

Course Code: CSE439

Under the Guidance of

(Shikha Jaryal – Assistant Professor)

School of Computer Science and Engineering

PAC Form

INDIA S LARGEST UNIVERSITY®

LOVELY
PROFESSIONAL
UNIVERSITY

Transforming Education, Transforming India

TOPIC APPROVAL PERFORMA

School of Computer Science and Engineering (SCSE)

Program :   P132::B. Tech. (Computer Science & Engineering)

COURSE CODE :   CSE439   **REGULAR/BACKLOG :**   Regular   **GROUP NUMBER :**   CSERGC0367

Supervisor Name :   Shikha Jaryal   **UID :**   23530   **Designation :**   Assistant Professor

Qualification : _____   **Research Experience :** _____

SR.NO.	NAME OF STUDENT	REGISTRATION NO	BATCH	SECTION	CONTACT NUMBER
1	Prajapati Vinaykumar Kaniyalal	11604425	2016	K1522	
2	Shubham Kumar Singh	11507002	2015	K1528	
3	Ashutosh Dubey	11503986	2015	K1529	
4	Abhishek Guleria	11503919	2015	K1516	
5	Himanshu Kashyap	11500868	2015	K1527	

SPECIALIZATION AREA :   Program Methodology and Design   **Supervisor Signature:** _____

PROPOSED TOPIC :   RESOEXPO

Qualitative Assessment of Proposed Topic by PAC		
Sr.No.	Parameter	Rating (out of 10)
1	Project Novelty: Potential of the project to create new knowledge	7.00
2	Project Feasibility: Project can be timely carried out in-house with low-cost and available resources in the University by the students.	7.00
3	Project Academic Inputs: Project topic is relevant and makes extensive use of academic inputs in UG program and serves as a culminating effort for core study area of the degree program.	7.00
4	Project Supervision: Project supervisor's is technically competent to guide students, resolve any issues, and impart necessary skills.	7.00
5	Social Applicability: Project work intends to solve a practical problem.	7.00
6	Future Scope: Project has potential to become basis of future research work, publication or patent.	7.00

PAC Committee Members		
PAC Member 1 Name: Dr. Prateek Agrawal	UID: 13714	Recommended (Y/N): NA
PAC Member 2 Name: Deepak Prashar	UID: 13897	Recommended (Y/N): NA
PAC Member 3 Name: Pushpendra Kumar Pateriya	UID: 14623	Recommended (Y/N): Yes
PAC Member 4 Name: Balraj Singh	UID: 13075	Recommended (Y/N): Yes
PAC Member 5 Name: Anupinder Singh	UID: 19385	Recommended (Y/N): Yes
DAA Nominee Name: Kuldeep Kumar Kushwaha	UID: 17118	Recommended (Y/N): Yes

Final Topic Approved by PAC: RESOEXPO

Overall Remarks: Approved

DECLARATION

We hereby declare that the project work entitled "**RESOEXPO**" is an authentic record of our own work carried out as requirements of Capstone Project for the award of B.Tech degree in Computer Science & Engineering from Lovely Professional University, Phagwara, under the guidance of **Ms. Shikha Jaryal**, during August to December 2018. All the information furnished in this capstone project report is based on our own intensive work and is genuine.

<div align="center">Project Group Number: CSERGC0367</div>

Name of Student 1: Shubham Singh
Registration Number: 11507002

Name of Student 2: Vinay Prajapati
Registration Number:11604425

Name of Student 3:Himanshu Kashyap
Registration Number:11500868

Name of Student 4: Ashutosh Dubey
Registration Number:11503986

Name of Student 5:Abhishek Guleria
Registration Number:11503919

(Signature of Student 1)
Date:

(Signature of Student 2)
Date:

(Signature of Student 3)
Date:

(Signature of Student 4)
Date:

(Signature of Student 5)
Date:

CERTIFICATE

This is to certify that the declaration statement made by this group of students is correct to the best of my knowledge and belief. They have completed this Capstone Project under my guidance and supervision. The present work is the result of their original investigation, effort and study. No part of the work has ever been submitted for any other degree at any University. The Capstone Project is fit for the submission and partial fulfillment of the conditions for the award of B.Tech degree in (Computer Science & Engineering) from Lovely Professional University, Phagwara.

Signature and Name of the Mentor

Designation

School of Computer Science and Engineering,
Lovely Professional University,
Phagwara, Punjab.

Date :

ACKNOWLEDGEMENT

*"It was not easy to prepare this project report without the assistance &
encouragement of other people. This one is certainly no exception."*

On the very outset of this report, we would like to extend our sincere & heartfelt obligation towards all the personages who have helped us in the endeavor. Without their active guidance, help, cooperation & encouragement, we would not have made headway in the project. First and foremost, we would like to express my sincere gratitude to our project guide,"**Ms. Shikha Jaryal**".

We are privileged to experience a sustained enthusiastic and involved interest from her side. This fuelled our enthusiasm even further and encouraged us to badly step into what was a totally dark and unexplored expanse before us. she always fuelled our thoughts to think broad and out of box.

We would like to thank **Lovely Professional University** for the guidance and support extended by the faculties along with the faculties and laboratory infrastructure to accomplish the research would like to.

At last but not the least we thank each other in developing the project and also the people who had helped us out with their abilities and skills.

TABLE OF CONTENTS

1. INTRODUCTION

ResoExpo is a resource management website meant for helping people organize their personal and professional events in an easy and convenient manner and provides resources to the people who wants to fulfill their needs by giving access to the vast amount of resources through easy, convenient and user friendly interface so that they could look for the resources and book them. It provides users whether it is an individual or company to organize events or ask for the resources which they need. The major concern of this website is to satisfy the requirement of users by providing resources at a very reasonable rate and help user to explore a hassle free experience while accessing our site. This site provides a interactive setting bar through which a user can tweak its login/signup page which makes even this fun.

ResoExpo is a simple, flexible and powerful resource management system. The company is approved only when the background check is done this provides a sigh of relief in terms of security that no one can fool you. So it provides users with a secure experience, this site tries follows the security triad CIA i.e confidentiality, integrity and availability as much as possible but we all know security is never perfect.

To improve our security ResoExpo has a separate admin portal from its company or users portal which helps in changing each and every aspect of website from its gallery to its news feed, faqs, message response and many more. Through this site we makes sure that every user can easily access the resources, get their queries resolved if they have any and take away good experience and affordable lifestyle by decreasing the cost and providing them with best deal. To organize events or book for it companies can join ResoExpo by proper authentication and by getting the approval of admin. ResoExpo provides company with their own control panel for their events and gives them many more functionalities. Resource Management Website that handles the bookings of the services and facilities by the registered members and all bookings are managed by the Administrator at backend.

1.1 Need of ResoExpo

Throughout the ages we humans have been always in search of materials and various resources to satisfy our daily needs. Earlier it used to be basic resources but now with the advancement in technology and drastic change in lifestyle our consumption of resources have also increased exponentially. But the process of finding resources like lawn, canteen, gym, seminar halls, books and many other types of resources one has to read through the pages of the newspaper and had to find the advertisement of these resources or sometimes people talk to third person to make the arrangement for the resources which result in the wastage of money as that person also takes his/her commission. To overcome these and many other problem we made ResoExpo so that you do not have to look here and there, just visit us. This will help the people to save their time and effort and they can get the resources at the best price.

1.2 Abstract of ResoExpo

This website is intended to help people find resources like lawn,canteen,gym,seminar halls,books and many other types of resources one needs.For all this, no one needs to look here and there, they just need to visit ResoExpo and look for what they need. To access this site a company needs to first sign up to login to this site. If a company is not registered then it needs to signup by filling all the required fields and agree to the terms and condition. In this site signup and login is fun because user can make changes and play with the user interface and tweak it as they like.
This site contains two separate portals - admin and company control. No company can can access the site without the approval of admin and email verification. First admin performs the background check of the company and if everything is good admin gives approval through its admin control panel. Admin can even change the site without even writing a code, this is all done by the admin control panel. From news feed to gallery images to query response to product management and many more functionalities are performed by admin without even writing a single code. If a company is already a member then it can simply login. A connection is made to apache server and a session is started for the user through PHP. Now user can organize an event or book an event, post queries, access all the facilities and can edit profile and logout very easily.

1.3 Benefits

In today's world, where there is ample of resources and the technology is developing at very high rate a person should make every penny count. By using this site user can get resources at the optimal rates and could get the benefits which are mentioned below :

- **Cost Saving :**

  One of the primary focus of this project is to cut down the cost which a middleman use to take for providing resources like land, halls, lawn on rent which heavily impacted at the pocket of the people.

- **Security :**

  The other most important aspect that this project concentrated is on security. As we wanted to make sure that our clients feel secure and can do transaction tension free. To Achieve this we made different control portals and embedded session controls for every user. A session is automatically destroyed if the user is inactive for few minutes.

- **User friendly :**

  Login and Signup was never fun before now. We provide fun and interactive way to signup and login. A user can choose the theme for his/her login and sign up page from the setting widget . This project provides user to change the background of the login and sign up page. The whole exploration feels very user friendly while exploring this site.

1.3.1 Our Vision

"To be India's leading online marketplace.Energizing India's growth."

More importantly, our vision is infused with core values of Care, Discipline, Trust, Integrity, Social Responsibility, Non-Discrimination, Fidelity, Innovation and Passion, which includes the collective moral sense of right and wrong of the company and its people, and to achieve new heights of success year after year.

"A customer is the most important visitor on our premises.He is not dependent on us.We are dependent on him.He is not an interruption in our work.He is the purpose of it.He is not an outsider in our business.He is part of it.We are not doing a favour by serving him.He is doing us a favour by giving us an opportunity to do so."

-Mahatma Gandhi

1.3.2 Our Mission

"To Provide Solutions to our Customers and Business Partners in an Economical, Efficient and Friendly manner, driven by Innovation, Passion, Trust, Security and Agility"

Moreover, We want to be the Cohesive Force in taking the Seller-Customer relation to next level by being trustworthy, doing our work passionately and innovatively and providing a responsibility of security. In doing so, we will abide by our core values of Care, Discipline, Trust, Integrity, Social Responsibility, Non-Discrimination, Fidelity, Innovation and Passion towards our work, employees and customers.

1.4 Features :

1.4.1 Centralized Exploration :
- This website brings the people to a centralized platform.
- People can find all the resources at one place and can also request and book the resource.
- It saves time consumption of people as earlier they used to go through newspapers, pamphlets.

1.4.2 Model-View-Controller (MVC) :
- This website contains one of the most amazing features - admin and company control panel made completely in PHP.
- Admin can delete, update, modify this website without even writing a single code and Company are not allowed to login until and unless admin approves it.
- Model is the central component which manages the data given by the controller.
- View presents the model and controller takes input,validates it and passes to model.

1.4.3 Freedom of choice :
- This website gives people to choose the resources which are not heavy on their pockets.
- Earlier People used to give money to middleman and they were forced to be satisfied As they have given money to the middleman.
- Now by in this website no cost is added as commission. People are free to choose the resources at different prices.

1.4.4 No forgery or cheat :
- This site restricts any unauthorised access. But what's new in this? Every site does.
- Yes, but no site ask the company to get verified. In this site no company can simply do sign up and then login.
- When company clicks on sign up button request goes to admin, after verification and background check, admin approves the request and then company get access to login.

1.5 Application

This website is intended to help the people and the companies by providing the resources that they requested for. It also allows them to organize events and book different events organized by different company or individual in exchange of minimal amount of money.

This site is protected from Cross-site(XSS) scripting and provides many features like session destruction. The security features enable to do the transactions safely and reduces the tension from the people mind.

2. PROFILE OF THE PROBLEM

2.1 No Prior Information :

In today's world, where there is ample of resources but to find one a person has to search it as he/she is searching a needle in a bush. The lack of proper information about resources and where to find them makes the task difficult for the people to utilize the resources to its fullest.So it is important to provide the people with the resources availability information along with its owner and location so that two parties can negotiate the cost.

2.2 Time Consumption :

In today's race against time even a single second can cost millions. People often tends to waste their time in finding the right candidate for their resource to be bought or try to give it on rent. They ask others and sometimes they themselves go to search for the person who is interested in buying resources (let say land) that the other is having. If at the last sec the person rejects the offer, then the time invested in trying to sell the land goes into vain. So to avoid this a platform is needed where people can just organize an event and wait for the buyer to contact and relax.

2.3 Extra Cost :

With no info and time consumption does not affect the person economically but when a person gives money to print his/her resources advertisement for sale or rent then it impacts his/her financial condition. There are times when people talks to agent to get things done but that only result in more expenditure as the agents take the money as commission. To reduce there was need to implement a solution where people can just post free about their resources without giving any extra charge and on top of that they can earn money by organizing an event or by giving own resources on rent.

2.4 Security :

As the technology is advancing day by day, so are the people who misuse the technology to gain illegal advantage on others in simple words hack others. People fear that their confidential data might be stolen if they do transactions or login in a websites.

So a platform was needed to overcome these major problems along with providing the users to buy or rent any resources. So we decided to make website which overcame all these limitations And we named ResoExpo.

3. EXISTING SYSTEM :

3.1 Introduction

There has been various rental sites which gives cars, property and other items on rent and sell. This area is not new to be explored as it is already extensively explored. These sites let you take items like cars, bikes, properties, houses on rent or you can even buy it.

3.2 Existing Websites :

- **https://www.cardekho.com/ :**
  CarDekho.com is india's leading car search venture that helps user to buy a used or new car. It provides a thorough comparison between cars and helps the user in deciding which car to buy. User can buy old car or a new cars.

- **www.rentomojo.com :**
  Rentmojo.com is one of the site which offers furnitures, bikes, alliances, electronics only on rent they do not sell anything. They provide user with a subscription based package to take things on rent. They provide free relocation but they do include climbing multiple storey charges.
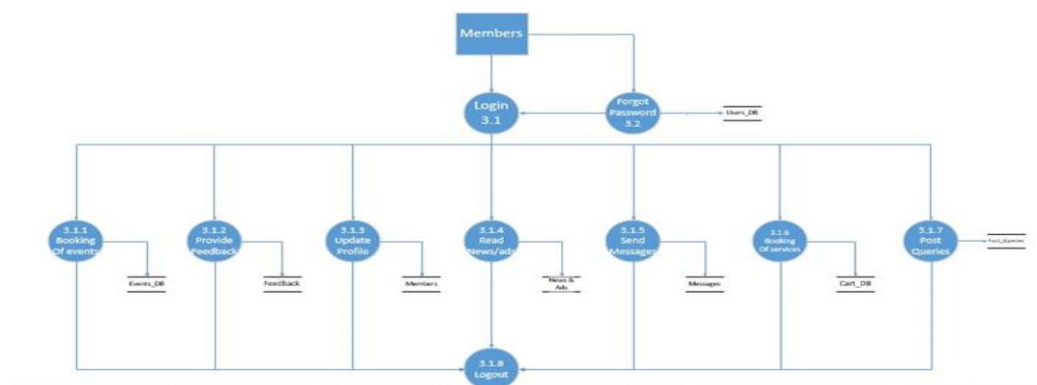
3.3 DFD For The Present System
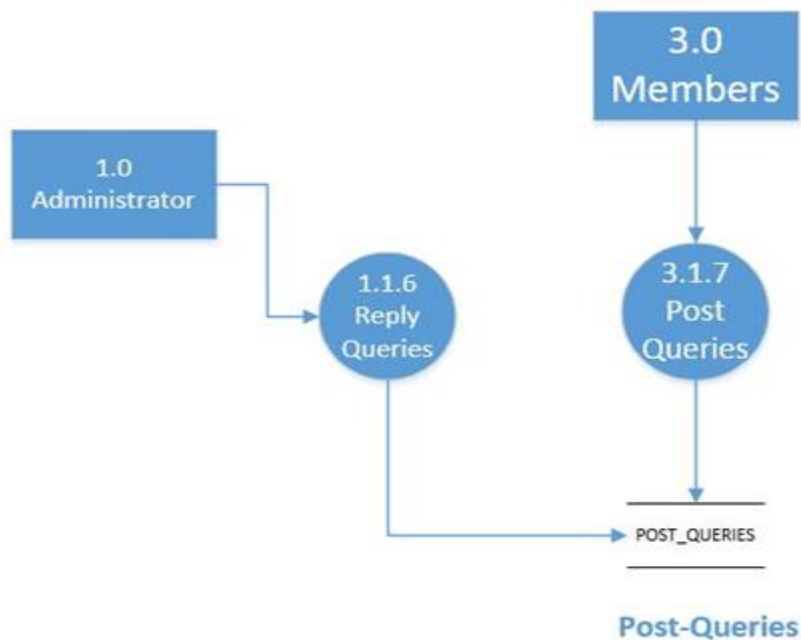

Fig 1. Full website structure

9

Fig 2. Post Query Reply from Admin DFD

3.4 What's new in the system to be developed :

Major drawback of websites mentioned above are as follows :

● CarDekho.com is a very optimal and informative site but it only sells and enable people to buy only car. This site does not provide the centralized exploration of different types of resources.

● Similarly rentomojo.com is relatively better site in terms of different types of resources but it also contains limited numbers of resources and one major drawback is does not let user to buy resources.

ResoExpo provides user a portal where user can give resources like cars, bikes, canteen, gym or any other resources on rent and they can even sell the resources. It solves the problem that the above mentioned sites are having by providing a centralized exploration platform to find different types of resources, and we give user the access to upload their resources and when a client needs resources and can easily take that uploaded resource after paying to that user.

4. PROBLEM ANALYSIS

4.1 Product Definition :

ResoExpo is a uncomplicated, supple, sturdy and robust resource management website that handles the bookings of the services and facilities by the registered members and all bookings are managed by the Administrator at backend.

4.2 Feasibility Analysis

The first and foremost thing before even starting on project we must determine whether the project is feasible or not. We did the following analysis under feasibility:

4.2.1 Technical Feasibility:

The technical feasibility helps us in understanding project in terms of input, processes, output, fields, programs and procedures, and how to get more than invested. While determining the technical feasibility we planned to use open source softwares and languages like XAMPP, PHP, Bootstrap, and many more. These software were easily available at no cost making our project feasible now and also for feature use.
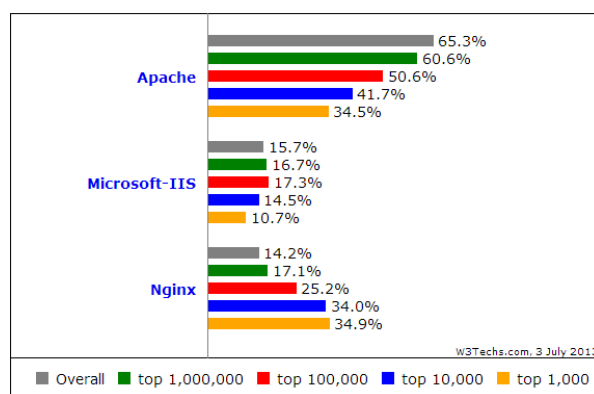

Fig.1 Apache servers are in great demand

Fig.2 PHP is widely used for Server Side scripting
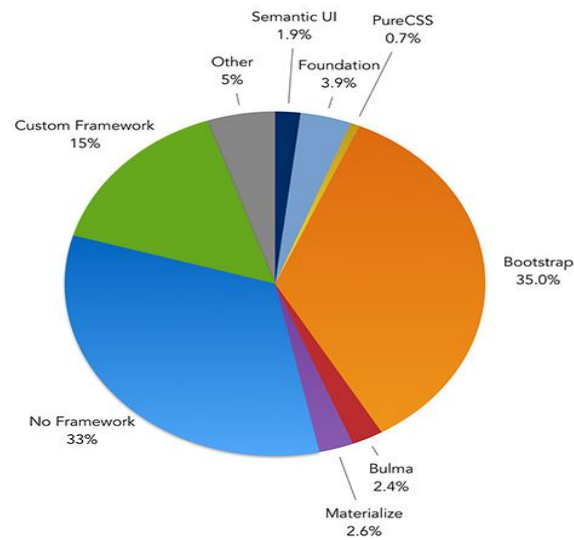
Fig.3 Bootstrap is one of the leading CSS framework

4.2.2 Financial Feasibility:

The financial feasibility ensures that the project should be feasible to make in a low budget and also it lives up to its performance expectation. The profit of any project can be estimated through the analysis. In this project we performed labour cost which was zero as we did not hire any developers and marketing executive. We planned to use free web hosting platform like webhost00.com to cut down the development cost.

4.2.3 Operational feasibility:

It is important for the site to be online 24/7, in order to do so we tried to minimize the operational cost by by hosting it on a Apache server as it runs on linux it barely needs any maintenance that means that our site will be operational most of the time. After proper analysis we came to conclusion that the by making a MVC we can maximize the code reusability and can reduce the maintenance cost and we could save time.

4.3 PROJECT PLAN

Now that the feasibility of the project was clear, moved ahead and started to make the SRS document for the project. In this document all the requirements and specifications of the application are mentioned, so that during the designing and coding phase we may consult the SRS document whenever needed and also may make certain changes in the document itself dynamically, if needed.
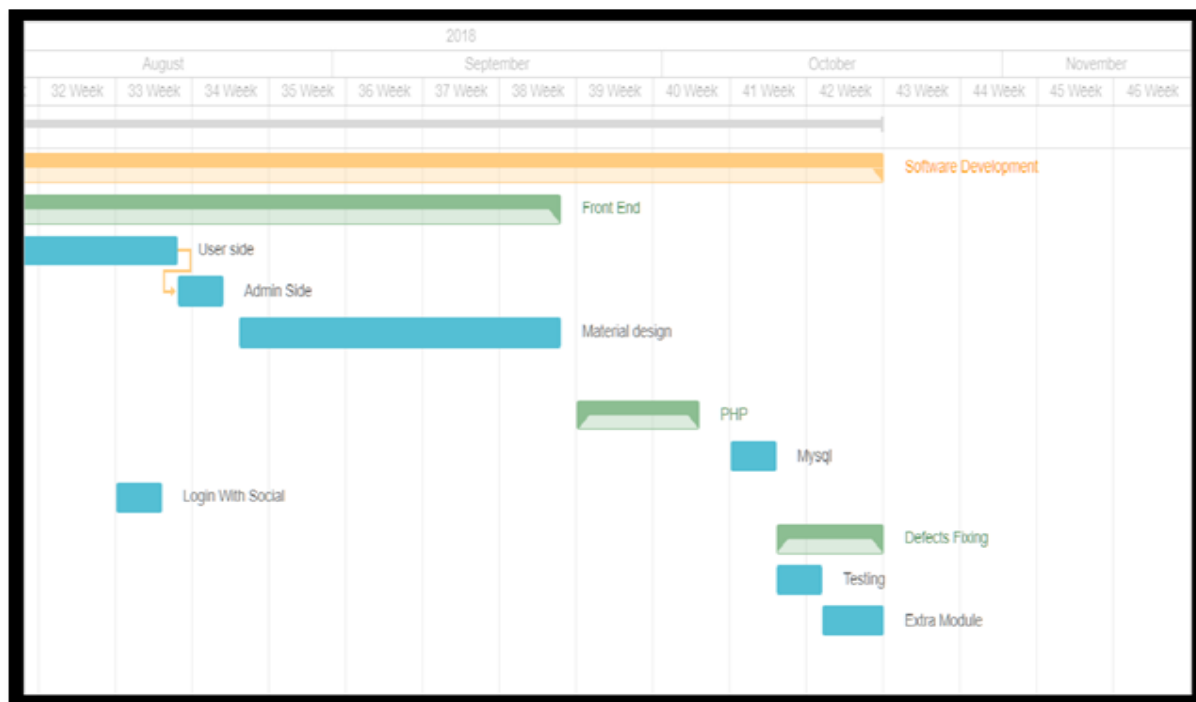

Fig.4 Planning of project was done in above order

5. SOFTWARE REQUIREMENT ANALYSIS

5.1 Introduction

ResoExpo is a management website which manage resources and take care of the services and facilities that are given to the users by allowing them to book for the event or resources and also gives the user access to upload their resources so that some other person in need can utilize it by either buying or taking it on rent.

5.2 General Description

This section contains brief description about the project and website.

5.2.1 System Interface :

5.2.1.1 Inputs:

The website will take input from user/company and when admin has to access the site then input will be taken at that time.The two basic details are needed for input i.e username and password which will be matched with the existing database.If user is not a member the details for sign up are needed which includes company name,username, password, contact number, email id and address and profile image upload is also taken as input in case of sign up.

5.2.1.2 Output:

The output is that after authentication, if true then company/user is landed on their dashboard. If false then error is displayed i.e user does not exist.

5.2.2 User Interface

The user interface of ResoExpo is user friendly even a small child can access it easily. It is simple,flexible and powerful. It provides effective navigation along with well planed

information architecture.The contrasting colour scheme used in website and the ability to tweak the theme and background image of the site at login/signup page makes the website more interactive. To be a member, book an event or to organize, one has to go through the following important and basic options :

Sign Up : While sign up user needs to fill the details asked along with the username and password, if username already exist then error will be displayed else the user will be registered.

Login   : After sign in user can login to access the site, this will allow the user to access our database which contains a large amount of resources which are also uploaded by the users only.

Dashboard : After login user will land on his/her dashboard from where he/she can book,organize,can post any query.It will contain profile of the user, user's resource bookings, And keeps record of the whole history of that particular user.

Error Messages : Error is shown to the user with appropriate messages which describe the error that has taken place. If applicable, error messages should suggest possible solutions to the problem. Error includes like while filing form or for incorrect username or password.

Dual Control Panel : Dual control panel will be made one for admin and other for companies. This will based on Model View Controller which will make the work of admin much easier.

5.2.3 Memory And Network Constraints:

This software will not take much computational memory and its size is also small compare to other websites. So memory constraints will not affect the software. Although the network can

be bottleneck for the website, if the bandwidth is low and full of congestion then the site will take more time to load, since it works online good internet is a must criteria for this website.

5.2.4 User Characteristics

The user can be of any age group to access this site. Any user who has internet connection and a device whether it is smartphone, laptop, desktop, or tablet can easily access this site. The user need not to be highly educated and technically expert.

5.3 Specific Requirements

There are several requirements which are needed to fulfilled consists of :

5.3.1 Minimum Hardware requirements

Table 1: Server Side

Processor:	1.8 GHZ
RAM:	512 MB
Disk Space:	2 GB free space

Table 2: Client Side

Processor:	1.8 GHZ
RAM:	512 MB
Disk Space:	2 GB free space

5.3.2 Minimum Software Requirements

Table 3: Server Side

Operating System:	Windows, Linux, Mac OS or any other OS
Web Server:	Apache
Front-End Tools:	HTML,CSS,Bootstrap,JavaScript
Back-End Tools:	PHP, MYSQL
Other Tools:	Bracketts, XAMPP,Atom

Table 4: Client Side

Operating System:	Windows, Linux, Mac OS or any other OS
Web Browser:	Internet Explorer 5.0 or any compatible

5.3.3 Software and tools used:

5.3.3.1 HTML :

HTML is the standard markup language which is used for creating web pages.It stands for Hypertext markup Language and is responsible for describing the structure of web pages using

markup.The elements of HTML are the building block of HTML and they are represented by tags. Browsers do not display tags but use them to render the content of the page.

The structure of ResoExpo is entirely built in HTML and provides backbone to this website. To make this project, both features from HTML4 and HTML5 are used.

5.3.3.2 CSS :

CSS is a language that describes the style of an HTML document i.e how HTML elements should be displayed. CSS stands for Cascading Style Sheet and it saves lot of work.It can control the layout of multiple web pages all at once.

This project uses CSS in extensive amount for minute tweaking CSS has been used. CSS helped likewise markup page to be introduced in various styles for various rendering strategies.

5.3.3.3 Bootstrap

Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.It is completely free to download and use. It is a free front-end framework which makes web development faster and easier it includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins.

ResoExpo uses bootstrap for its responsive web design.It uses Bootstrap CDN which leads to the faster loading time as it uses cache to load fast when the site is visited.

5.3.3.4 Javascript :

Javascript commonly known as JS is a high-level, interpreted programming language and is one of the three core technologies of the world wide web.JavaScript enables interactive web pages and thus is an essential part of web applications.

5.3.3.5 PHP :

PHP stands for Hypertext Preprocessor which is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into

HTML.The PHP code is enclosed in special start and end processing instructions <?php and ?> that allow you to jump into and out of "PHP mode."

This site is entirely built in PHP and HTML from generating a session to destroying a session,for connecting to the database and sending the form data so that it can be inserted in database, PHP performs all task.Even MVC will be built in PHP.

5.3.3.6 MySQL :

MySQL is an open-source relational database management system. It is the central component of the LAMP open-source web application software stack.
In this project we used MySQL which acts as a database management system. It provides the site cross-platform support. We choose to use MySQL because of it can handle large queries very efficiently and provides more security in terms of transactions.

5.3.3.7 Atom And Brackets :

These are both editors that are available free and are open-source.Both have great features like autocomplete, text highlighting, auto indentation ,live preview, free extensions and many more. Because of all these features we are making our project in Atom and Brackets.

5.3.3.8 XAMPP :

XAMPP is a completely free, easy to install Apache distribution containing MariaDB, PHP, and Perl. The XAMPP open source package is incredibly easy to install and to use. Various extensions can be integrated with XAMPP. We use this distribution so that we can get everything organised in one package plus it is very popular among the web community.

5.3.4 Performance Requirements :

Nobody likes a slow website, as the name suggests it performance is judged by how fast a site load, fetch data, process it and sends output to the user. The response time of a website should

be less than 2sec. Even when the number of user are increased and load on the site increases even then site should perform at the same speed.

The website should provide updated resource information and should also destroy the existing session if the user is inactive for a long time. At times of low internet connection it should optimize the site by blocking the loading of images and videos and should give preference to text so that the website performance remain unaffected.

5.3.5 Security

1. The website must be password protected whether it is through admin or company.

2.Company will only be able to login after signup when admin has approved the new member request.

3.The website should never disclose any confidential information of users such as credit card details, and should not collect irrelevant information from its own users.

4. Authorization rights will be defined for different role.Admin will be having different rights than a user.

6. DESIGN

6.1 System Design :

System design is the process of defining elements of a system like modules, architecture, components and their interfaces and data for a system based on the specified requirements. It is the process of defining, developing and designing systems which satisfies the specific needs and requirements of a business or an organization.

6.1.1 Login Page

Login is a process in which user can authorize itself to access the website. It's developed in AJAX. So, users can get authentication without page load.It's connected with MVC in which "dao" file directly connects it with the database stored in xampp.It will match username and password with the database table and if both matches it will show success message let user access his/her account.

6.1.1.1 Admin Login

Admin has superior rights in which it can modify any details available in website. So, Admin login made with extra security which includes encryption and decryption algorithm. It will be easier to sign in and it consists of very light weight modules.

6.1.1.2 Company/user Login

Company login is Same as Admin login but has different tables where the data are stored.

6.1.2 Sign Up Page

SignUp page includes detail which may be required in future by user and admin to maintain and enhance users experience.It also uses MVC module to connect it with database.

6.1.2.1 Admin SignUp

Admin SignUp page is nearly same as users SignUp page . The only difference is in the

amount of form fields and seperate table where these data are stored. Admin can include details generated using MVC. UI of this is designed in Bootstrap.

6.1.2.2 Company/user Sign Up

Company/user Sign Up is same as users SignUp page users can includes details.

6.1.3 Dashboard

It will show all the available resources to the users and other additional details.

It will also have the option to decline or accept users in case of admin.

6.1.3.1 Add Ressources/Product

Add resource/product will add resources/product it will be updated on both sides company as well as admin side.

If resources are not appropriate then admin have right to remove or make a change in it.

Using MVC it will be easier to add or remove resources and it will give faster response.

6.1.3.2 Add Facilities

Add facilities will add facilities offered to both company side and admin side.

In this also if facilities are not appropriate then admin have right to remove or make a change in it.

Using MVC it will be easier to add or remove resources and it will give faster response.

6.1.3.3 Add Services

Add Services will services it will also get updated on both company side and admin side.

If resources are not appropriate then admin have right to remove or make a change in it.

Using MVC it will be easier to add or remove resources and it will give faster response.

6.1.3.4 Add Messages

It will add functionality of chatting or requesting resources or information from admin. Like other modules it also uses bootstrap and MVC.

User can add message to the admin so that admin could read message from his account.

6.1.3.5 Add News

It will give feature to users that they can have access towards news based in their area of interest. Only admin has right to add news, delete or edit news.

6.1.3.6 View News

View news module will give access to news to the users as well as admin.

6.1.3.7 Add Advertisement

It will add advertisement to the site. By this advertisements website can earn revenue and advertisement will be related to interest area of users.

Admin will have right to edit or remove advertisement.

6.1.3.8 View Advertisement

View news module will give access to advertisement to the users as well as admin.

6.1.3.9 Manage users

Manage Users module added to the admin profile will give right to admin to manage users and find suspicious user and remove or remove access.

6.1.3.10 Manage FAQs

Frequently asked questions will be shown to users and answer will be given by admin and user will also be having right to review.

6.1.3.11 Manage Post Queries

We believe in customer satisfaction therefore users queries must be solved first. So, it gives right to user that they can post queries and admin has right to manage and solve queries posted by users.

6.1.3.12 Payments

Payments uses payment APIs.

Payments is use when user want to access or acquire resources in exchange of money.

6.1.3.13 Feedback panel

Feedback modules to enhance performance of website and solve problems or errors if it arrives user can mention in feedback.

Feedback will also show overall experience of user while using website.

Admin will solve if issues arrived by looking at feedback.

6.1.4 Backend Structure

Backend is entirely build on php and mysql to maintain data of each and every user.

It uses MVC platform which makes admin task easier to maintain dependencies and manage views and rights of user,company and admin itself.

MVC is made using 4 files:

1) DAO:

   It implements interface and shows data to appropriate user based on their rights.

   Insert,Update and delete function will be called directly using this file.

2) DBCONNECT:

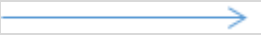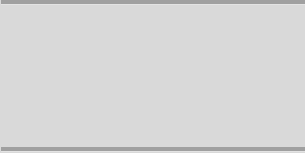It gives database connectivity to all pages in website

3) :INTERFACE 1

   It is used when user want to insert any kind of data.Insertion will be easier by calling a function.

4) MODEL:

   Model have the footprint of whole website which data will flow from where to where.

6.2 Design Notation :

SYMBOLS NAME	SYMBOLS USED	DESCRIPTION
FUNCTION OR PROCESS (CIRCLE)		Shows a part of system that transforms input into output.
EXTERNAL ENTITY		Source or destination of data flow.
DATA FLOW (ARROW)		Shows movement of data from one part of system to another.
DATA STORE		To model collection of data at rest.

6.3 Detailed Design :

6.3.1 Introduction of DFD

As information moves through software, it is modified by a series of transformations. A data flow diagram is a graphical representation that depicts information flow and the transforms that are applied as data move from input to output. The basic form of a data flow diagram, also known as a data flow graph or a bubble chart. The data flow diagram may be used to represent a system or software at any level of abstraction. In fact, DFDs may be partitioned into levels that represent increasing information flow and functional detail. Therefore, the DFD provides a mechanism for functional modeling as well as information flow modeling

6.3.2 Need of DFD :

- DFD assist in explaining the borderline of the system.
- It makes communication easy between user and the person who share the system knowledge.
- It provides elaborated description of system components
- It supports the logic behind the data flow within the system.

6.3.3. Context Diagram:

Context Diagram is a diagram that defines the boundary between the system, or part of a system, and its environment, showing the entities that interact with it.Here is the context flow diagram of ResoExpo.
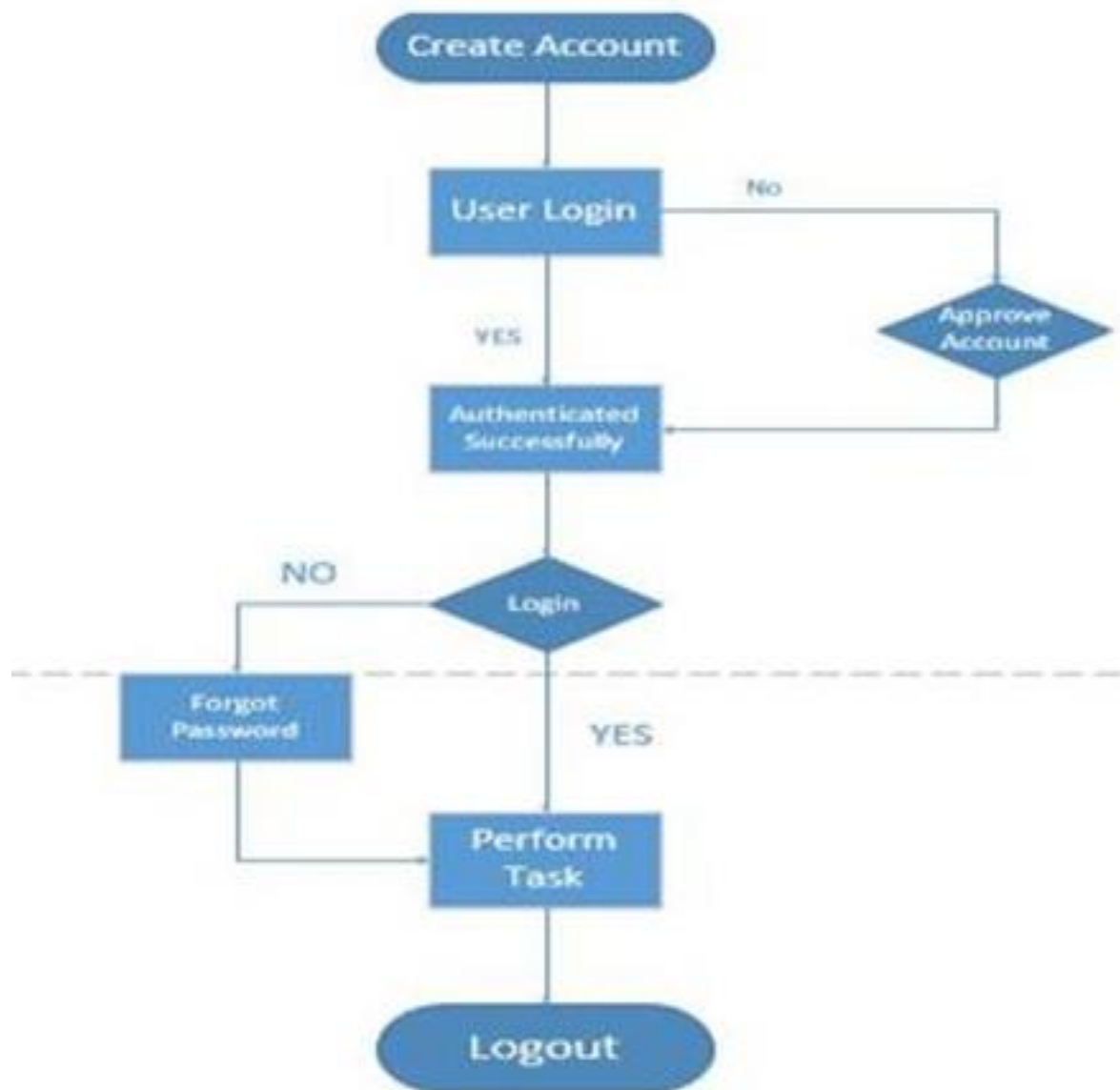

Figure 5: Context flow Diagram

6.4 Flowcharts

Fig 6. Flowchart of how our website works
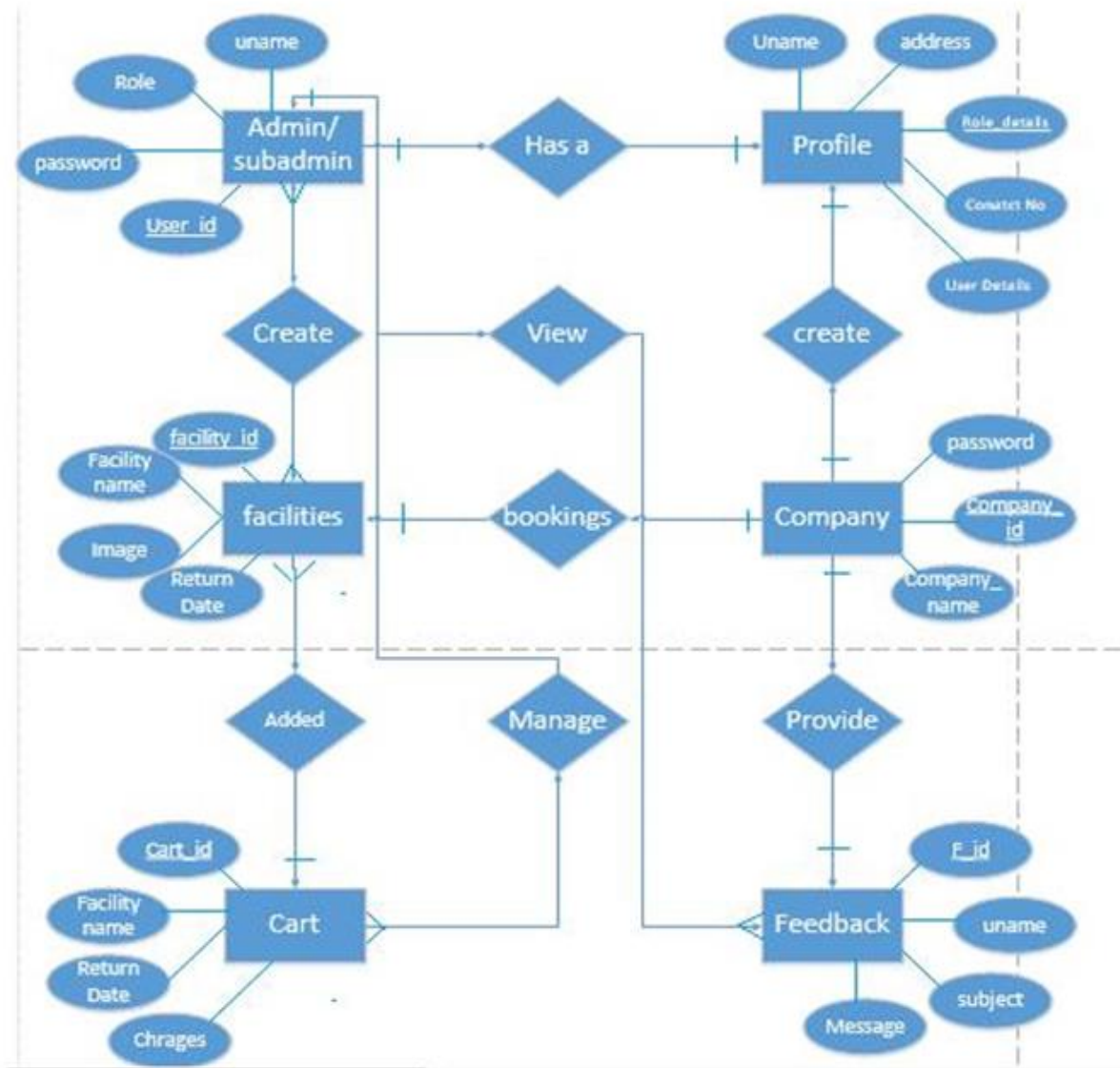
6.5 ER Diagram :

Fig 7. ER Diagram of the complete website structure

7. TESTING

If the coding of a website or a software is started, then it must be tested to correct as many errors as possible before publishing it online or giving it to a customer. In order to find the error in this site a good test case was used so that we could find as many errors as possible.

7.1 Functional Testing :

After implementing this project we gave proper time to each and every module to test it, Black Box technique was used to test the system. Functions were tested by providing them with input and analysing the output.There are some steps through which we can do the testing:

   I.   Recognize the functions that the website module is anticipated to carry out.

  II.   Make input data based on module's definition.

 III.   Get the output based on the module's specification.

 IV.   Run the test cases.

  V.   The last step is to collate the expected and actual output.

7.1.1.

Description

If any user/company wants to access website he/she must sign up first and only after becoming a member and getting approved by admin they can login. People/company can signup and login with either gmail account or by filling the form manually.

Input

-User enters the gmail credentials or manually fills the signup form.

Processing

-Checks whether the email mentioned is valid or not, it will be valid only if the email account is still active.

Output

-user will receive email regarding verification, he/she needs to verify his/her email address whether it is through gmail login or manual login.

-If it is valid then data is fetched from google to this site to create user account else generate an error about wrong email address.

7.1.2

Description

If any user/company wants to add their resources/products which they want to give for rent. They can add them and they will be added only when they are approved by admin. They need to provide the complete details about the resources/products which they want to add.

Input

-User enters the data about the resources/products in the add resources form.

Processing

-Admin approves the data uploaded by the user/company to be available for rent on the website.

Output

-If the data is approved then all the resources and their details added by the user/company will be visible to the visitors.

7.1.3

Description

If any user/company wants to add facilities that they want to add along with the added resources.Then they can add them and they will be added only when they are approved by admin. They need to provide the complete details about the facilitiess which they want to add.

Input

-User enters the facility details in the add facility form.

Processing

-Admin approves the data uploaded by the user/company about the facility.

Output

-If the data is approved then all the details about resources/products and available facilities included with them will be visible to the visitors.

7.1.4

Description

If any user/company wants to add services that they want to add along with the added resources.Then they can add them and they will be added only when they are approved by admin. They need to provide the complete details about the services which they want to add.

Input

-User enters the data about the services like security,maintenance in the add services form.

Processing

-Admin approves the data uploaded by the user/company about the services.

Output

-If the data is approved then all the details about resources/products and available facilities and services included with them will be visible to the visitors.

7.1.5

Description

If any user/company wants to send message to admin and vice versa regarding making any requests or other queries then they can send.Admin will be able to see all the messages send to him by the user in his admin panel and user will be able to see all the messages send to him by admin in his control panel.

Input

-User/Company/Admin enters the message to be send.

Processing

-User/Company/Admin analyzes the message received by them.

Output

-They all can send message to each other and can solve their queries.

7.1.6

Description

Admin can add any news based on the interest of the users. Only admin has right to add news, delete or edit news.

Input

-Admin enters the data about the news to be added in the add news form.

Processing

-Effort is made to send news to the users account when they logs in.

Output

-News uploaded/updated by the admin is then made visible to the users only when they log in.

7.1.7

Description

After admin has added any news then admin and users both can see what has been added. Only admin has right to add news, delete or edit news.

Input

-Nothing is taken as input here.

Processing

-Effort is made to make the news visible to both user and admin.

Output

-When user is logged in,news uploaded/updated by the admin is then made visible to the users and admin also.

7.1.8

Description

Admin can add advertisements to the site. By this advertisements, website can earn revenue and advertisement will be related to interest area of users.Only Admin will have right to edit or remove advertisement.

Input

-Admin enters the data about the advertisement to be added in the advertisement form.

Processing

-Effort is made to send advertisement to the website.

Output

-Advertisement uploaded/updated by the admin is then made visible to the users only when they log in.

7.2 Structural Testing

Structural testing is performed on the source code to check that how compatible the code is. After performing the testing, I analyzed that for non-functioning activities it provides us with an error message and if user inputs match the algorithm behind the code them it will successfully perform the desired action else it will provide the user friendly warning.

Structural testing is a technique for testing programming that tests inside structures or working of an application, instead of its usefulness (i.e. discovery testing). In Structural testing an interior viewpoint of the framework, and in addition programming aptitudes are required and used to configuration test cases. The analyzer picks contributions to practice ways through code and decide the proper yields. This is comparable to testing hubs in a circuit, e.g. in-circuit testing.

7.3 Levels of Testing

To find the maximum number of error possible we made our website through rigorous testing we did testing at different levels.The Different levels of testing performed are:

i) Unit testing :

To perform unit testing we decided that we will make our project in different modules which will make testing more feasible and rigorous. We checked each and every module for minute error. While performing unit testing no error were found at that time.

ii) Integration Testing:

After when we were done with testing each module we started testing it by taking different modules and integrated them with each other and then tested whether it was working perfectly or not, we concluded that there we some UI error, so we removed those error and know it is perfectly integrated without any error.

iii) System Integration Testing:

After doing the unit testing and integration testing many error were corrected and at last the whole project was tested as a single entity to check the performance level, security breaches And for other kind of errors.

7.4 Testing The Project

After we completed our project testing was done on the regular basis to find any error.
Because finding error now will lessens the chances of error or crashes at the time of delivery.

8. IMPLEMENTATION

8.1 Implementation Of The Project

Our implementation of project from scratch to finish is described below:

i) A Basic Formal Questionnaire :

In the 1st week when we got capstone project dated around mid of august 2018, we started reading newspaper section were advertisements were printed from there we got the idea that the problem is more than we accepted we started asking people about the types of problems they faced due to unawareness and lack of resources in the time of their need.We decided to make a basic questionnaire to prove the feasibility of the project. We came to know that no company was providing resources as we could have done, so took our idea and started working on it and we were sure about the high demand in resource management as there were sites that used to sell resources but none of them were providing different types of resources at single platform and giving access to sell or rent their resources so future demand of our project was also there.

It gave us a clear cut idea that what were the basic needs of user who expected such an website in today's life. We started making SRS document and by september 2018, The document was prepared and shown to my mentor Miss Shikha Jaryal and after suggesting and correcting minor errors and mistakes, she approved it.

ii) Preparation of SRS Document:

After the feasibility analysis was approved. We moved one step close and started making SRS document for the project. In the document all the requirements analysis was performed and specifications of the application were mentioned, so that during the designing and coding phase we may consult SRS document whenever needed and also may make certain changes in the document itself dynamically, if needed. It reduced error probability for our project.

8.2 CONVERSION PLAN

It is defined as the process of translating data from one format to another. These are needed to be performed because of many reasons such as hardware/software upgrades, new technology, maintenance of website .

Various necessary steps for conversion plans are: -

i) **Communicate-** It will prevent any confusion/misinterpretation by communicating every aspect and module in detail. User will be properly taught how to use the application effectively.

ii) **Backup-** System backup will be taken time to time to allow the team to revert back to any point in system's life.This includes configuration settings, licenses, the original installer package (if still available), documentation, any relevant log files, and any persisted data that is queued for processing.

iii) **Validation-** To avoid duplicate and ambiguous data validation is necessary step to check whether the converted data is accurate and complete.

iv) **Testing-** After coversion we perform testing on the website by providing different test cases so that error could be found.

8.3 Post Implementation And Maintenance

8.3.1 Conduct Post-Implementation

After completing our project we wanted to conduct the Post- Implementation Review. To review our success PIR was going to be very useful as it is a formal evaluation of the

actual level of project success. This PIR helped us to learn valuable lessons for future projects and to make a project successful.

8.3.2 Review Project Performance

If any items works day and night due to some technical glitches some error gets introduced so proper maintenance is must. After concluding PIR our main concern was maintaining performance of application website so we audited the project execution to check whether the project conveyed guaranteed benefits, met the project destinations, worked inside extension, and created the guaranteed expectations on time, inside spending plan, and utilizing the assigned assets. Survey how the project performed against every one of the objectives characterized amid the Initiation, Concept Development, and Planning stages. Distinguish whether the project:

i)   Delivered the benefits described in the project.

ii)   Remained within the original scope.

iii)   Met the quality targets.

iv)   Completed within the stipulated time or not.

8.3.3 Maintenance

A project always need to be kept in good shape by performing proactive, regular updates and technical maintenance in order to guarantee the best performance of the project.

Creating any project(application) looks ease when we compare with maintenance of the application.

One investigation also showed that more than 80% of upkeep exertion is utilized for non-remedial activities.

 We designed the website and introduced Model View Controller which enhances the reusability of the code .This website was designed in modules and the code of website is well documented. Particular care were taken to design the software modularly to ensure that maintenance is easy.

Maintenance is use to amend flaws, to enhance execution or different qualities.

. Further advantages of following the maintenance plans are-

i)   This allows our users to use the solutions longer.

ii) It keeps the us happy and motivated.

iii) It develops trust between ours and the Users.

iv) New features can be implemented faster and cleaner.

9. PROJECT LEGACY

9.1 Current Status Of Project

We started from the feasibility analysis, gone through SRS document and interacted with people so that we can make our project such that everyone feels great whenever they access the site. While working on this project we faced many issues and risks but we tackled all very efficiently,finally we completed our project. The current status of project is a fully functional website which is responsive and manages the resources.

9.2 Remaining Areas Of Concern

i) **Connectivity:** In today's market there are many websites but all are facing same issue that is connectivity.The connectivity is never same in every area, in urban the connectivity is good, but in rural it is not up to the mark. So,To use this site users need internet connection and if connection is not the user will not be able to access the website.

ii) **Knowledge of hardware:** Our project will be used by many users/companies but main problem is that not all user would have a technical background. If any fault occurs in the non-technical host of application then it requires some knowledge to detect the fault and correct it. Otherwise user have to wait until it is corrected by the technical people**.**

iii) **Knowledge of Internet:** ResoExpo is a website which works on internet and to access our website user only need basic knowledge of internet.

9.3 Technical and Managerial Lessons Learnt

9.3.1 Technical Lessons

i) **Web Development :** In web development we learnt various languages like PHP in more depth, CSS, HTML5, Bootstrap, Javascript, MySQL and Version Control that is Git. Because of this knowledge we managed to make this website.

ii) **Validation of Forms:** We learnt how to validate any data inserted in a form.

iii) Web Design : we learnt various aspects of web design, how to make our site modular, modern, and responsive.

iv) Connecting Frontend With Backend : We learnt how to connect our frontend with backend, how to access backend, how to authenticate user, validation of the user account and many more things were coming to us as a knowledge.

v) Software : While working on this project we learnt various softwares like XAMPP, Adobe Photoshop CC (V19.1.3) and Adobe After Effect CC.

9.3.2 Managerial Lessons

i) Project management: Lifecycle model plays an important role in software development. We used life cycle model to make our project.

ii) How to handle the stress: When a time limit is given the pressure automatically comes. This project was no exception we had to constantly work under stressful conditions, because of the shorter time period and the other courses that were taught during same semester.

iv) Proper Time Management: As the time duration was short and there was lot of work the proper time management helped us. We dedicated a time slot to work on the project and rest of the time we focused on our semester subjects.

v) Improved Formal Relationships: We are not used to the environment in which we can enhance our office relationship like professional talk and meeting kind stuff. During all phase of project we created such a wonderful friendly office that amended office relationship.

vi) Explored Weak Areas: Working as a team not only helps to showcase our various strengths, but it also helped to shred up areas of weakness. After knowing we started working on our weakness.

10. USER MANUAL

As soon as the site goes online the number of user start increasing and access the website . User should have a internet connection and device to access our site.

Now user can just follow these:

i)   User need to enter url or just search in google

ii)   If user has not register, he need to sign up else login into the website.

iii) Now after login he can access all the resources, organize events, book them

iv) Our Website is very user friendly. No as such training is required.

v)   If anyone not able to use or facing any issue then they can write into the feedback panel and admin will be notified.

11. SYSTEM SNAPSHOTS
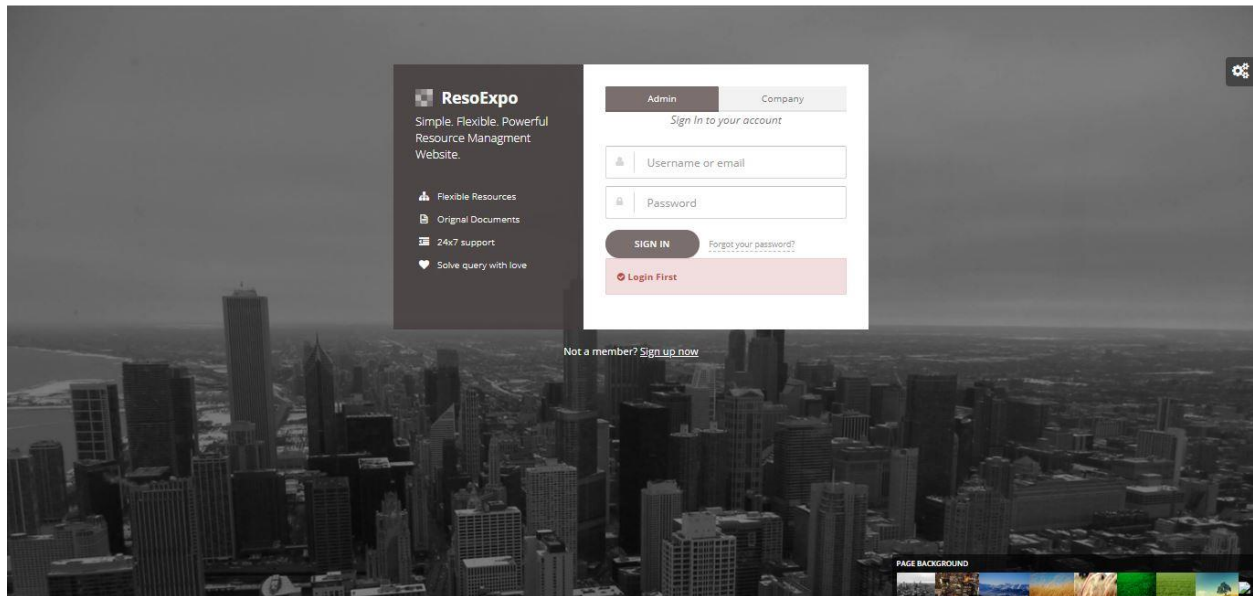
Fig 6. Login Page for admin and company
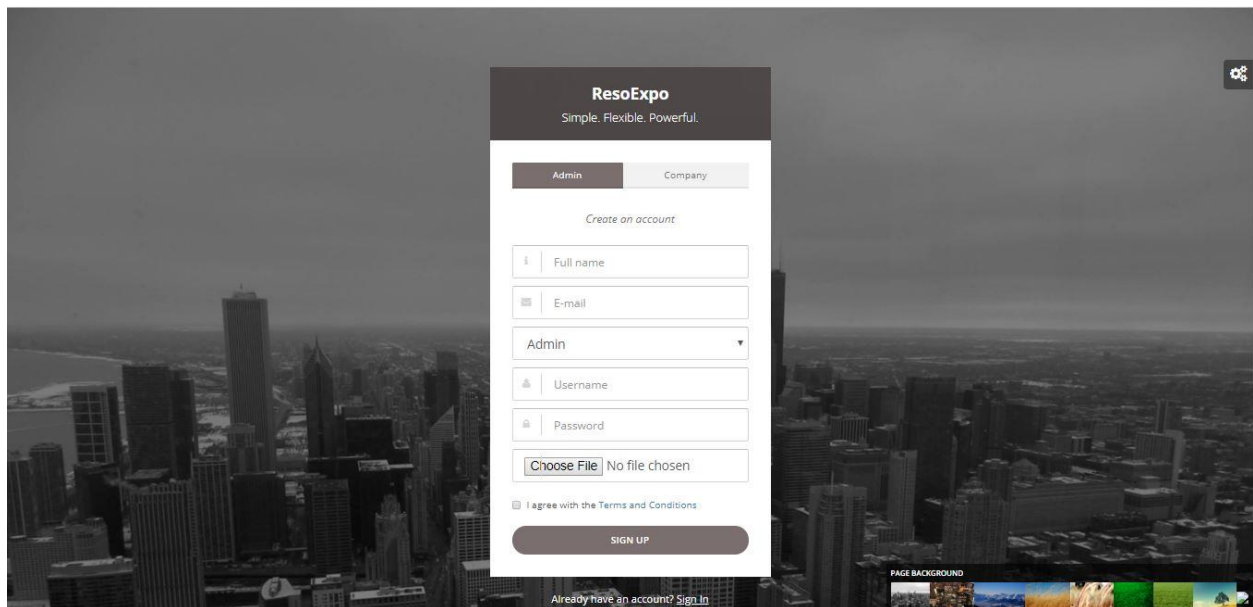
Fig 7. Sign up Page for admin
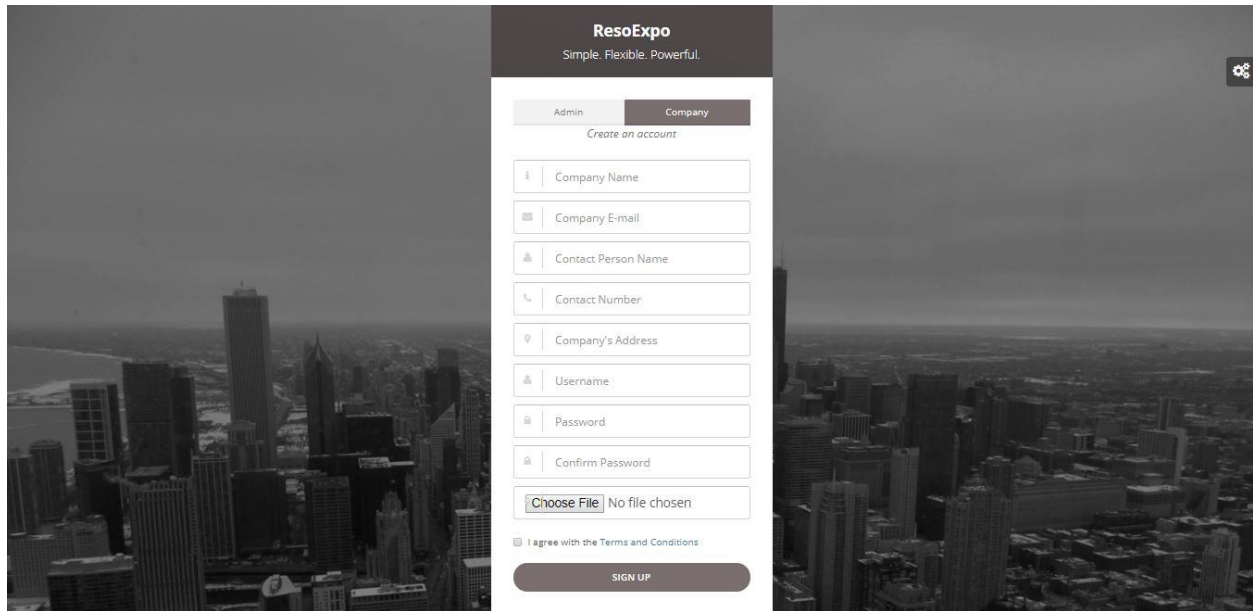
Fig 8. Sign Up page for Company
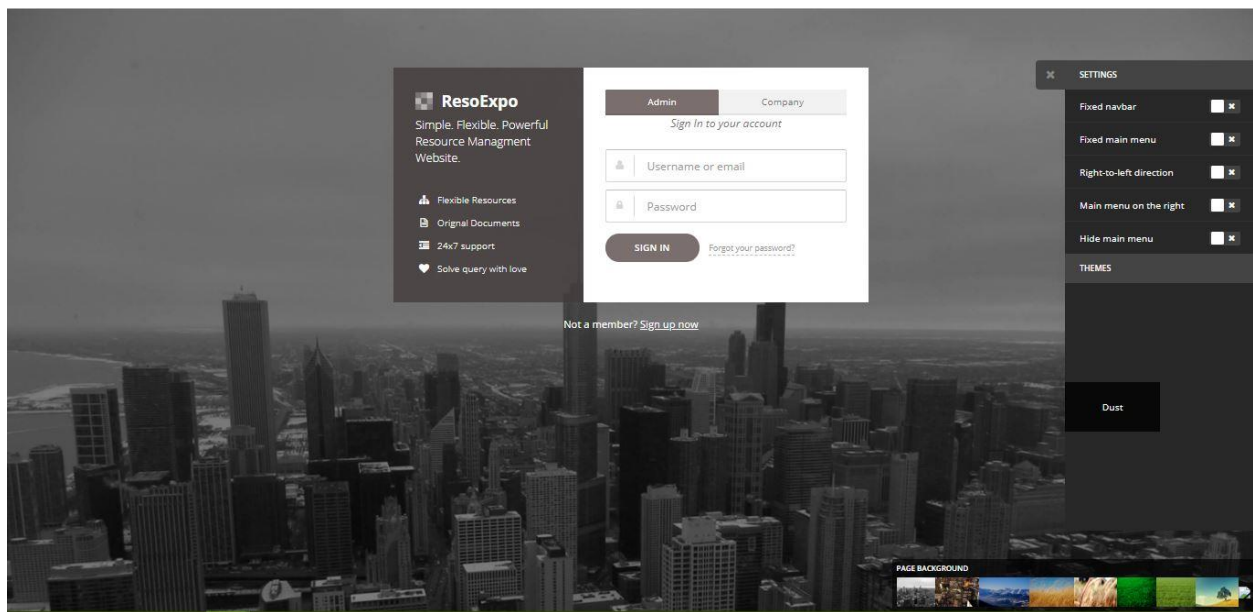
Fig 9. Customize theme and background of site with setting widget
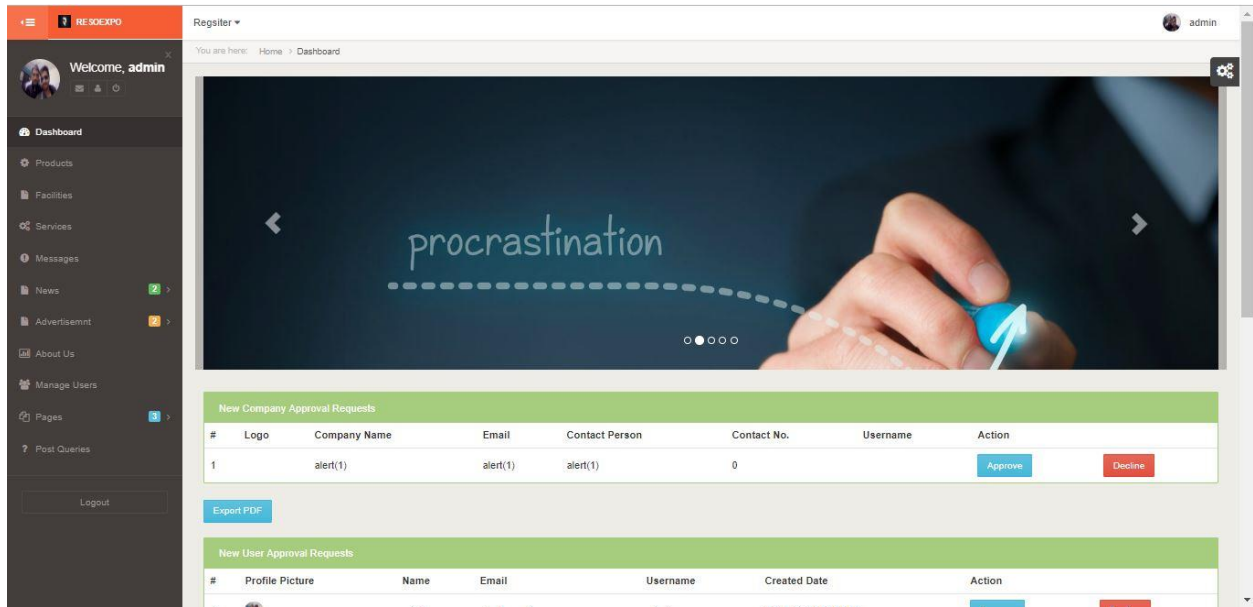
Fig 10. Admin Dashboard

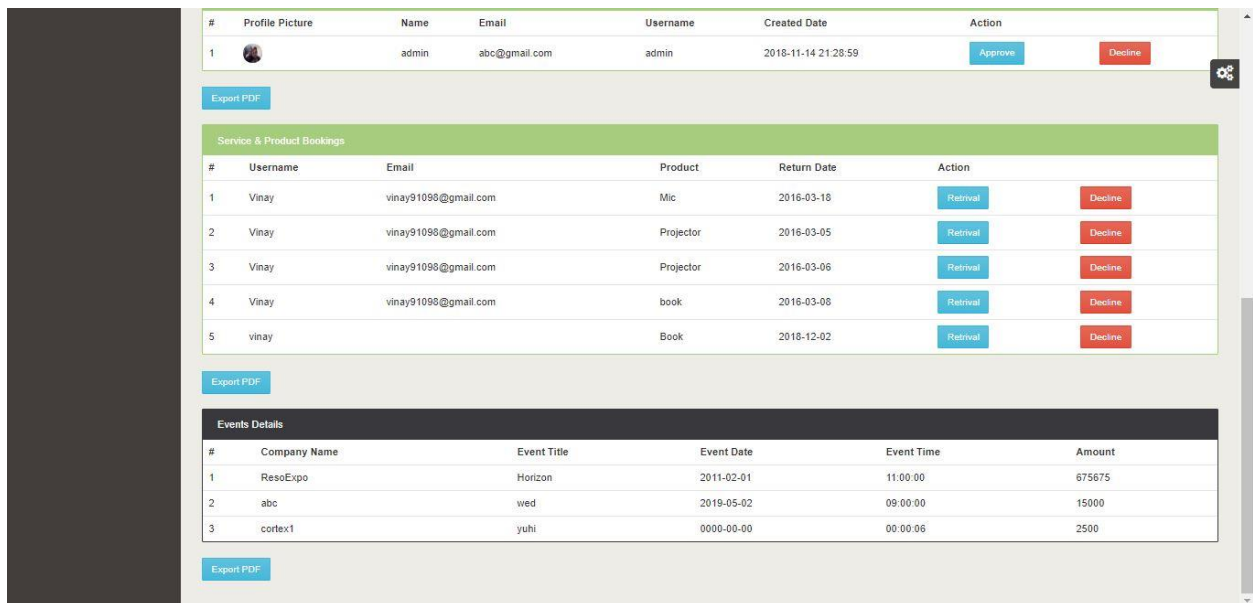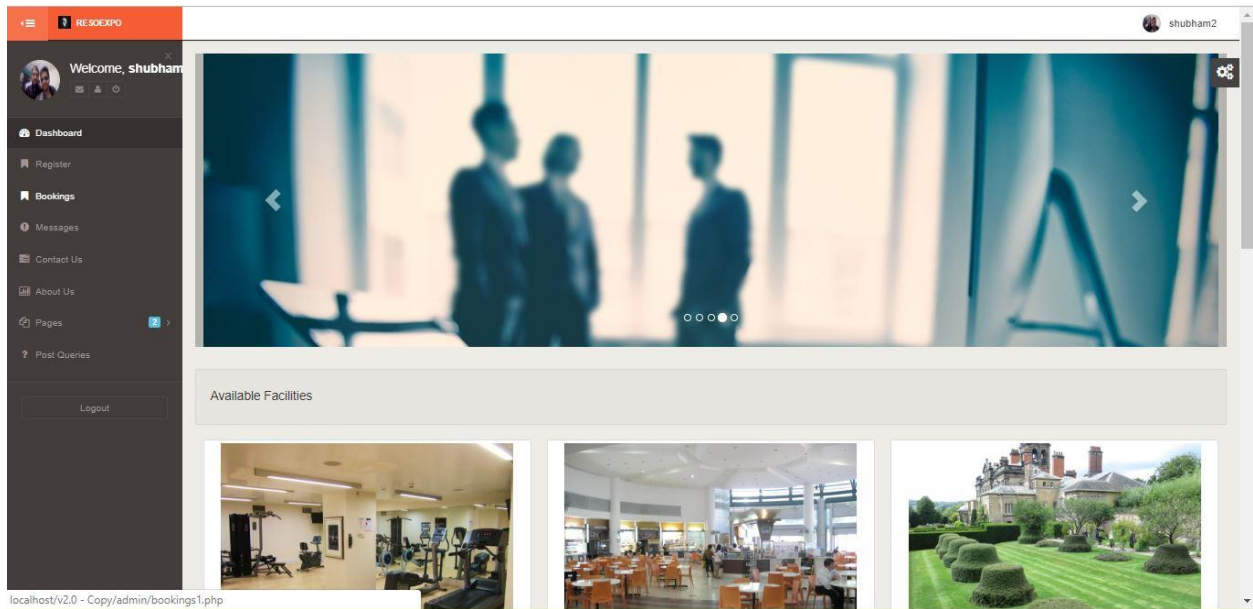
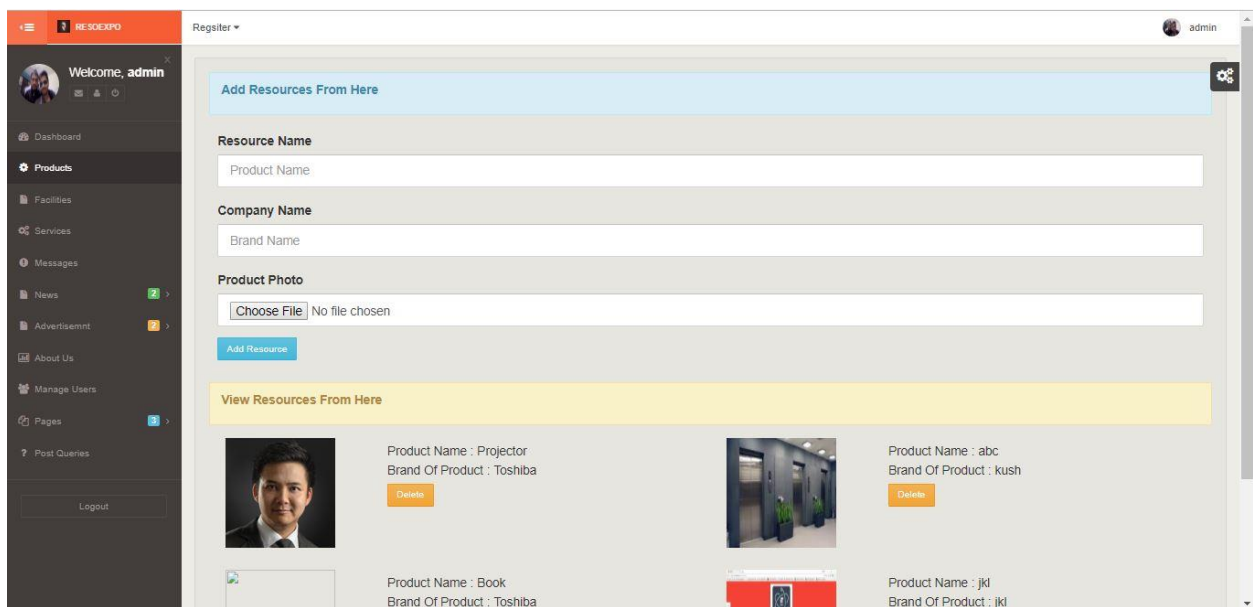Fig 11. Admin Dashboard another screenshot

Fig 12. Company Dashboard
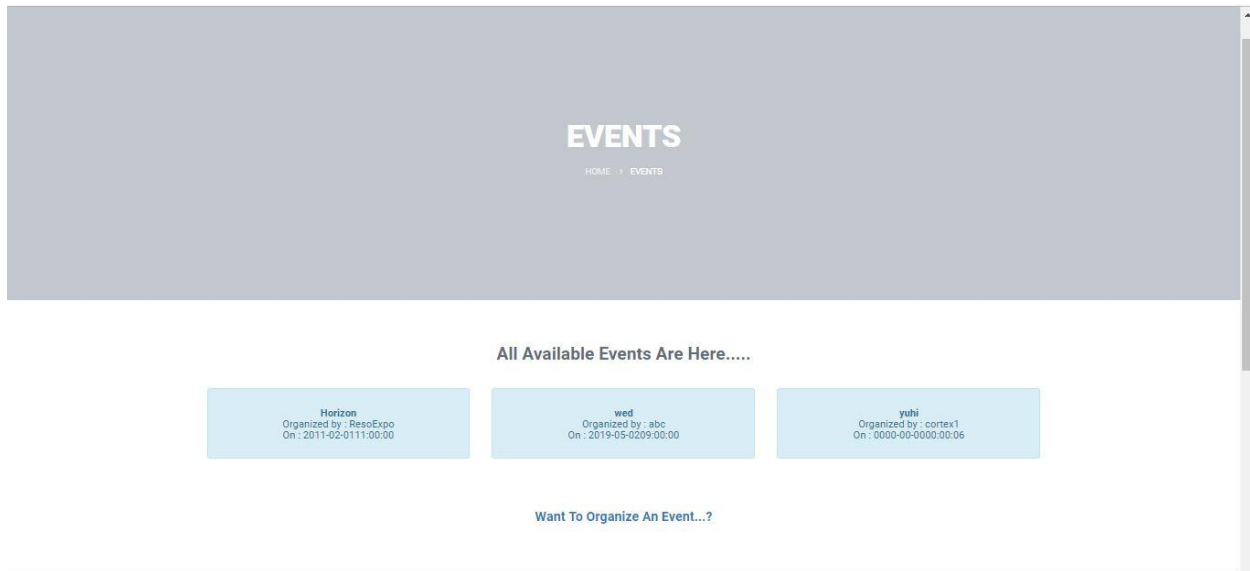

Fig 13. Add resources

Fig 14. All the events are displayed to user
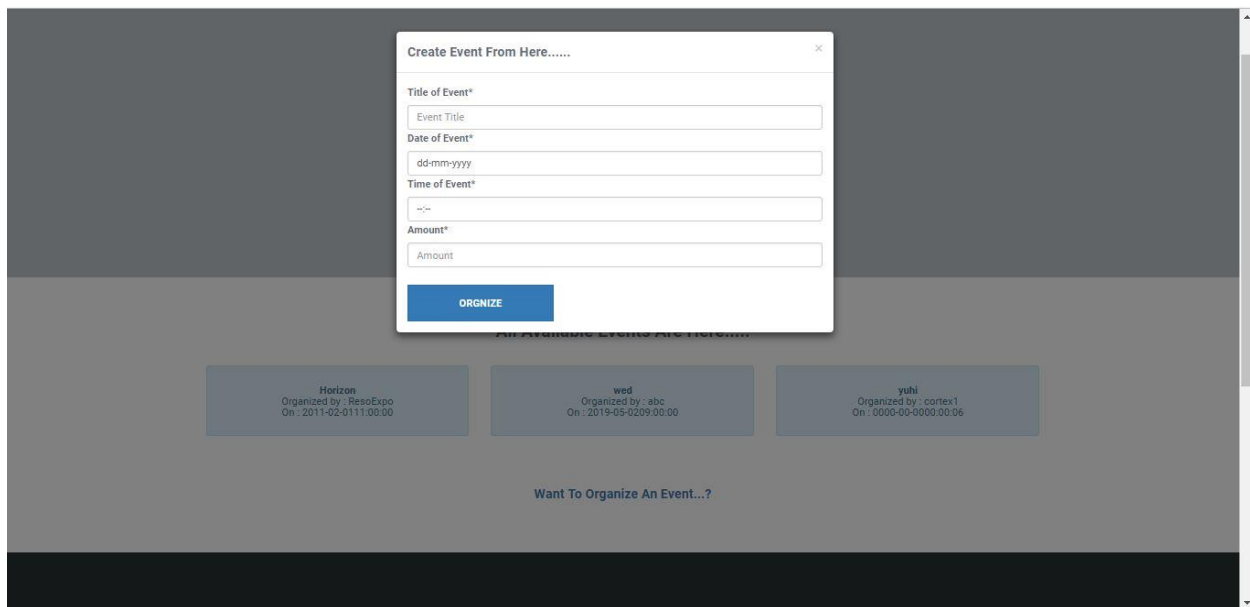
Fig 15. Organize an Event

11. Bibliography

i)   www.w3schools.com

ii)   https://www.edx.org/professional-certificate/front-end-web-developer-9

iii)   PHP Manual by Mehdi Achour,Friedhelm Betz and several others

iv)   Beginning PHP and MySQL by W.Jason Gimore