#### PROJECT REPORT

ON

**Unified Collaboration Tool** 

**FOR** 

Persistent Systems Ltd.

 $\mathbf{BY}$ 

**Shriharsh Umesh Ambhore** 

# UNIVERSITY OF PUNE MASTER OF COMPUTER APPLICATION M.E.S's INSTITUTE OF MANGEMENT AND CAREER COURSES (IMCC), PUNE-411029 2012-13

# Acknowledgement

I hereby take this opportunity to express my gratitude to all the people who have influenced the making of this "Employee Management in eMee" project.

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# CHAPTER 1 INTRODUCTION

#### 1.1Company Profile:

#### **Persistent Overview:**

Persistent System Limited is established in 1990 by

Dr. AnandDeshpande. Persistent is a global company specializing in software product and technology innovation. For more than two decades, Persistent has partnered closely with pioneering start-ups, innovative enterprises and the world's largest technology brands. We have utilized our fine-tuned product engineering processes to develop best-in-class solutions for customers in technology, telecommunication, life science, healthcare, banking, and consumer products sectors across North America, Europe, and Asia. Thanks to extensive technology product expertise, today, customers also turn for technology strategy and consulting services. Persistent customers benefit from deep knowledge of next-generation Cloud, BI & Analytics, Collaboration as well as Mobility-based computing platforms. By leveraging our strategic technology partnerships, IPbased accelerators, and agile development processes companies can

successfully navigate increasing time-to-market pressures and deliver the highest quality solutions, faster and more cost effectively. Persistent's global team is made up of the industry's best and brightest software engineers and technology consultants whose expertise spans from niche technologies, to the latest technologies and built-to-scale enterprise applications. Our team members share a passion for pushing the limits of the technology frontier and an unwavering commitment to quality, efficiency and innovation. That is why Persistent customers continue to partner with us across companies, careers and technology changes, and why in our third decade, we are still innovating with the market leaders we once helped launch.

#### **Persistent Systems Financial Investors include:**

- Norwest Venture Partners
- Gabriel Venture Partners
- Intel Capital
- Hewlett-Packard
- IBM

#### 1.2 Existing system and need for system

#### **Existing system:**

Numbers of meetings are scheduled within an organization for various purpose right from requirement gathering to delivering the product .

On a monthly basis organization spends an extraordinary amount of money on travel expenses, and its staff complained of low productivity due to the hours spent on the road travelling. The rise in gas prices and traffic congestions added to their frustrations.

More over organizations have their well qualified employees scattered at different geographical locations. This made receiving help and advice from staff at other branch offices difficult and time consuming.

Conveying the findings of the meetings to the person who could not attend the meeting is a cumbersome task.

Also if the employee is attending the meeting for the first time he is unaware of the results of previous meetings. Maintaining the findings of every meeting consumes lot of time as lots of paper work and files are associated with the meetings.

Considerable amount of time is wasted is planning the meetings and its agendas.

#### **Need for system:**

In order to eliminate the drawbacks of the existing system this collaboration tool is developed.

The proposed system is very useful In conducting Meetings in an efficient manner and eliminating the geographical barriers.

This tool has following advantages over the existing system

- Scheduling meetings on demand
- More efficient person to person interaction
- Participation in meeting irrespective of his/her geographical location
- Recordings of meetings
- Sharing the necessary documents with the participants of meeting
- Documents associated with meetings
- Travel time and cost reduction

#### 1.3 Scope of Work

The project will use audio/video conferencing techniques to help team stay connected and provide easy access to documents and information. This will make employee interaction and their engagement more interesting.

All tasks can be completed under one single platform.

The collaboration tool has following features.

#### **Project Modules:**

- Document Sharing during the meeting-Employees can share the necessary related
   documents in pdf,docx,docetc format by selecting the participants during the meeting.
- Online meeting with audio/video chat Employees can arrange meetings with other employees throughout the organization.

#### • Recording the meeting-

Recording the meetings and storing the recording in some repository so that it can be used / accessed by employee in order to fulfil future needs.

Creating ,Scheduling and launch of meetings Scheduling meetings and inviting the attendees.
 Sharing the calendar events with your contacts.

#### • Document repository-

A document repository containing the related documents which can linked with the meeting.

## • Instant messenger-

Instant messenger allows the employees to enter their valuable comments during the meetings.

## 1.4 Operating Environment -

# **Hardware and Software**

#### **Server Side:**

#### Hardware

• Processor: Core-i3

• RAM:Minimum 4GB

• Hard Disk: Minimum 40 GB

#### Software

• Windows Server 2003

• MySql

• Red5 Streaming Server

• Imagemagick

#### **Client Side:**

#### Hardware

• Processor: Core2Duo

• RAM: 2GB

• Hard Disk: 10 GB

• Web Camera

• Headsets

• Speakerphones

#### Software

- Windows XP and onwards
- Internet Explorer 8& onwards or any other flash supported web browser,

#### 1.5 Detailed Description of Technology Used

#### **Red5 Media Server:**

Red5 Media Server 1.0 delivers a powerful video streaming and multi-user solution to the Adobe Flash Player and other exciting client technologies. Based on Java and some of the most powerful open source frameworks, Red5 stands as a solid solution for business of all sizes including the enterprise. Red5 includes support for the latest multi-user API's including Net Connection, Net Stream and Shared Object's while providing a powerful RTMP / Servlet implementation. In addition to support for the RTMP protocol, the application server has an embedded Tomcat Servlet container for JEE Web Applications. Application development draws additional benefits from the Spring Framework and Scope based event driven services. By using the Open Source Red5 Media Server, you are developing with a truly open and extensible platform that can be used in Video Conferences, Multi-User Gaming and Enterprise Application Software.

#### ImageMagick:

ImageMagick is a software suite to create, edit, compose, or convert bitmap images. It can read and write images in a variety of formats (over 100) including DPX,EXR, GIF, JPEG, JPEG-2000, PDF, PhotoCD, PNG, Postscript, SVG, and TIFF. ImageMagick can resize, flip, mirror, rotate, distort, shear and transform images, adjust image colors, apply various special effects, or draw text, lines, polygons, ellipses and Bézier curves.

#### JAVA:

JAVA is the foundation for virtually every type of networked Application and is the global standard for developing and Delivering mobile applications, games, Web-based contentand enterprise software. With more than 9 million developers, Java enables you to efficiently develop, deploy and Useexciting applications and services. From laptops to Datacenters, game consoles to scientific supercomputers, cell phones to the Internet, Java is everywhere!

The Key considerations of JAVA summed up are

#### • Simple:

Java was designed to be easy for the professional programmer to learn and use effectively.

Assuming that you have some programming experience, you will not find java hard to master. If you already understand the basic concepts of object-oriented programming, learning java will be even easier.

#### • Object-Oriented:

Although influenced by its predecessors, JAVA was not designed to be source- code compatible with any other language. This allowed the java team the freedom to design with a blank slate. One outcome of this was a clean, usable, pragmatic approach to objects. The object model in java is simple and easy to extend, while primitive types, such as integers, are kept as high performance non objects.

#### • Robust:

The multiplatform environment of the Web places extraordinary demands on a program, because the program must execute reliably in a variety of systems. Thus the ability to create robust programs was given a high priority in the design of JAVA. To gain reliability, Java restricts you in a few key areas to force you to find your mistakes early in program development.

At the same time, Java frees you from having to worry about many of the most common causes of programming errors. Because Java is a strictly typed Language, itchecks your code at compile time. However, it also checks your code at run time.

#### • Multithreaded:

Java was designed to meet the real-world requirement ofcreating interactive, networkedprograms. To accomplishthis, Java supports multithreaded programming,

which allowsyou to write programs that do many things simultaneously. The Java run-time systemcomes with an elegant yet sophisticated solution for multiprocess synchronization that enables you to construct smoothly running interactive systems.

#### • Distributed:

Java is designed for the distributed environment of the Internet because it handles TCP/IPprotocols.In fact, accessing a resource using a URL is not much different from accessing a file. Java also supports *Remote Method Invocation (RMI)*. This feature enables a program toinvoke methods across a network.

#### • Architecture-Neutral:

A central issue for the Java designers was that of code longevity and portability. One of the main problems facing programmers is that no guarantee exists that if you write a program today, it will run tomorrow—even on the

same machine. Operating system upgrades, processor upgrades, and changes in core system resources can all combine to make a program malfunction. The Java designers made several hard decisions in the Java language and the Java Virtual Machine in an attempt to alter this situation. Their goal was "write once; run anywhere, any time, forever."

#### MySQL: Database Management System

MySQL is a relational dabase management system(RDBMS) that runs as a server providing multi-user access to a number of databases. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements.

MySQL is owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now qwned by Oracle Corporation.

My Structured Query Language (MySQL) is the language used to manipulate relational databases. MySQL is tied very closely with relational model. In the relational model, data is stored in structures called relations or tables. MySQL is a database server. MySQL is ideal for both small and large applications. MySQL supports standard SQL. MySQL compiles on a number of platformsMySQL statements are issued for the purpose of: Data definition: Defining tables & structures in the database (DDL used to create, alter and drop schema objects such as tables and indexes) Data Manipulation: Used to manipulate the data within those schema objects (DML Inserting, Updating, Deleting the data, &Querying the databases)

#### OpenLaszlo:

**OpenLaszlo** is an open source platform for the development and delivery of rich Internet applications

The OpenLaszlo platform consists of the LZX programming language and the OpenLaszlo Server.

LZX is an Extensible Markup Language (XML) and JavaScript description language similar in spirit to XUL, MXML, and Extensible Application Markup Language (XAML). LZX enables a declarative, text-based development process that supports rapid prototyping and software development best practices. It is designed to be familiar to traditional web application developers who are familiar with HTML and JavaScript.

Open Laszlo Server is a Java servlet that compiles LZX applications into executable binaries for targeted run-time environments.

# CHAPTER 2 PROPOSED SYSTEM

#### **2.1 Proposed System**

Now days, computer is used in a day to day life. Last few years have shown us that use of computer based systems in business has helped business to grow with fewer efforts.

The proposed system consist of following modules to make the entire process more efficient ,less time consuming and more productive.

- Audio/Video conferencing
- Document Sharing
- Meeting Recording
- Creating ,Scheduling meeting
- Document Repository
- Instant messenger

#### 2.2 Objectives

The main objective is to help the officials to stay connected and provide a easy access to the documents, and information.

The other objective of the system is to streamline the entire existing system in terms of time and cost and make the management well equipped with all reports and current data which will be useful in quick decision making and better management.

The other objective also includes maintaining historical data which could be used for future processing.

- Maintains accuracy of Data.
- Error free Scheduling of meetings
- An Efficient and economical option

## 2.3 USER REQUIREMENTS:

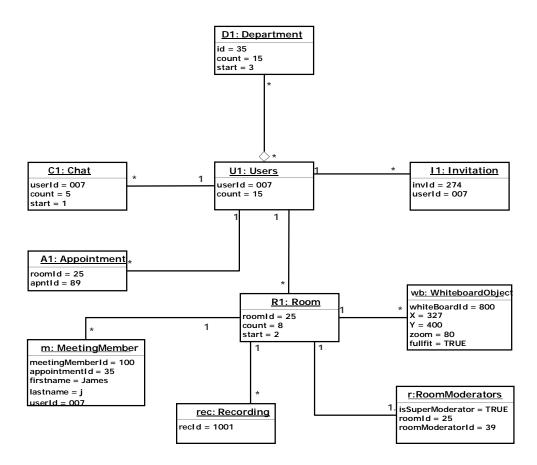
Here organization's employees are the users of the system, therefore requirement will play important role in the development of the system. Therefore the requirements of employees and the organizations are as follows:-

#### Requirement Overview:-

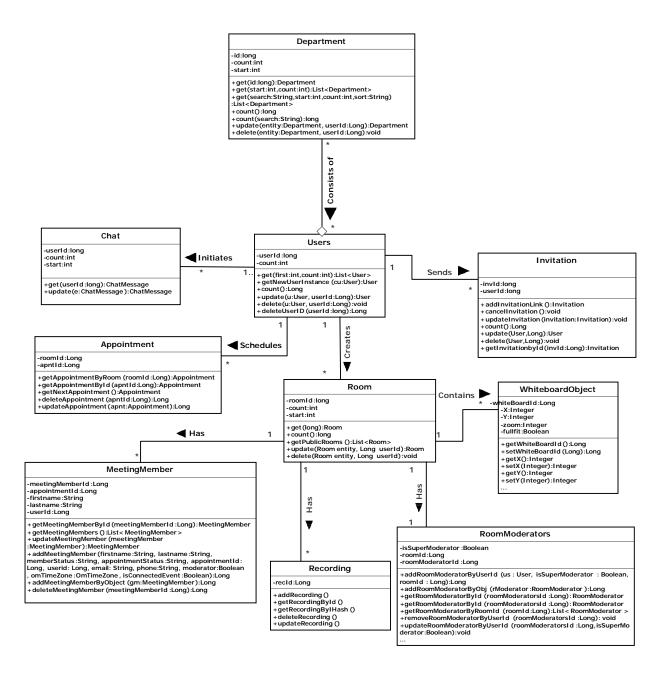
- A centralised database should be maintained.
- System should be user friendly
- System should be cost effective
- System should have low maintenance
- Multiple user can access and perform their task.

# CHAPTER 3 ANALYSIS & DESIGN

# 3.1 Object Diagram:

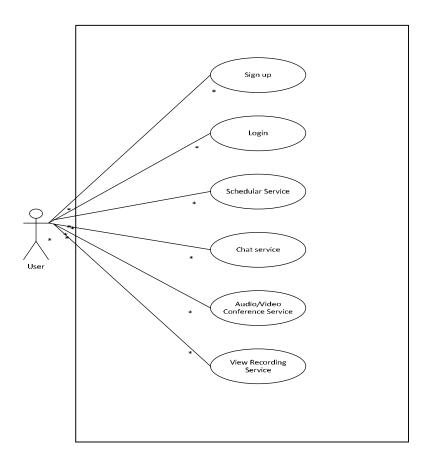


#### 3.2 Class Diagram

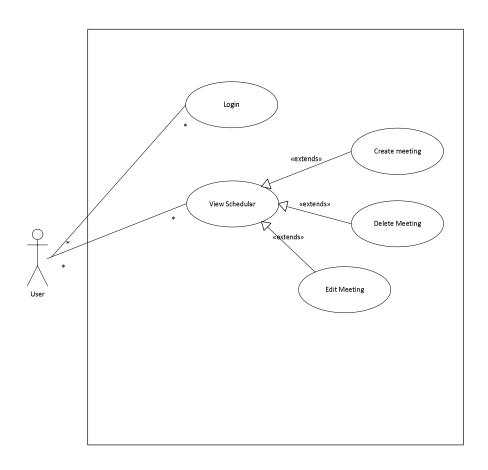


# 3.3 Use Case Diagram

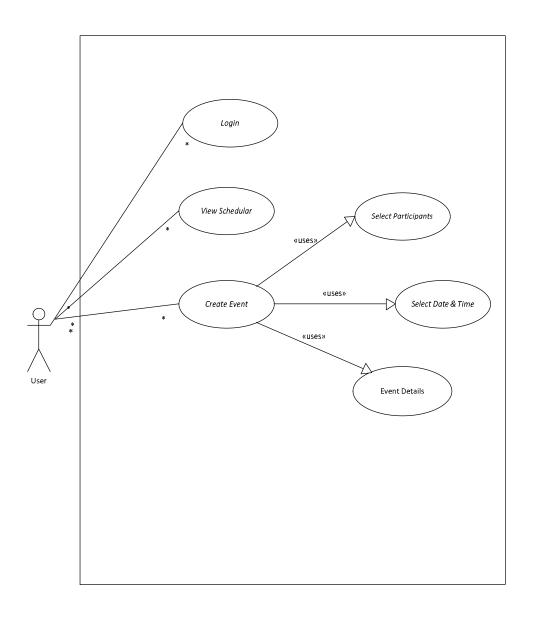
# Business use case diagram



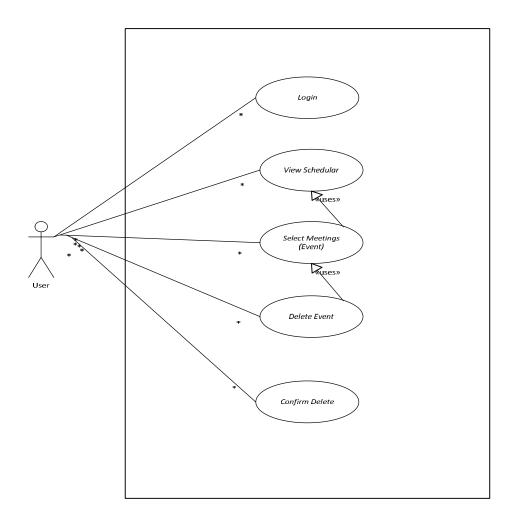
## **View Meetings Use Case:**



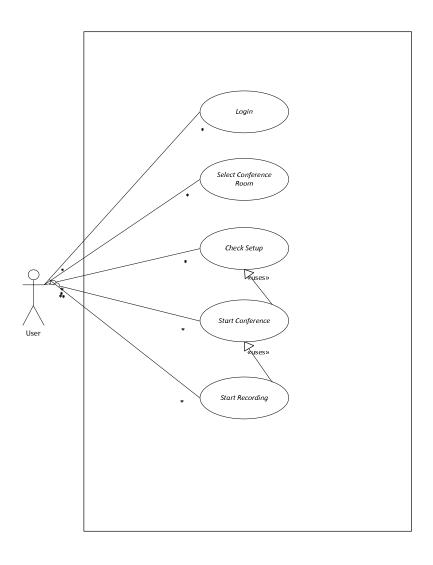
# **Create meeting use case:**



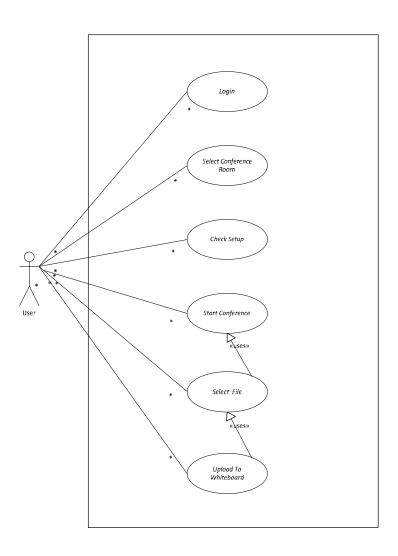
# Cancel meeting use case



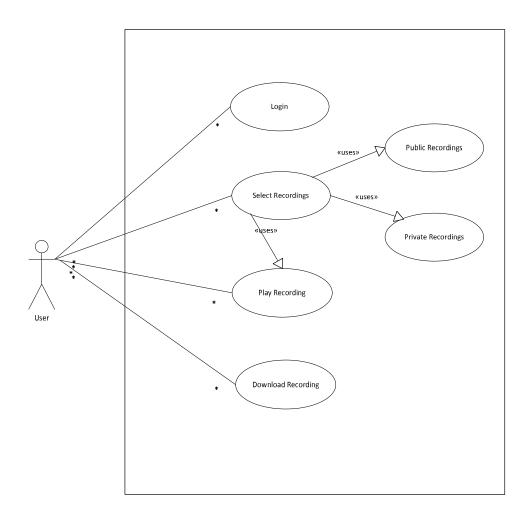
# Audio/Video conferencing use case



# Upload document use case:

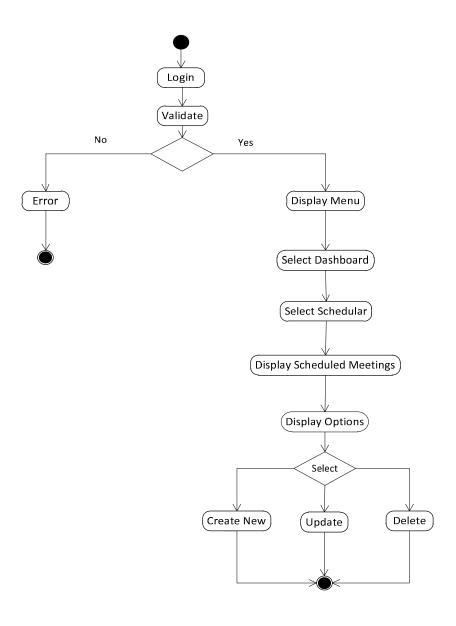


# **View Recording Use Case:**

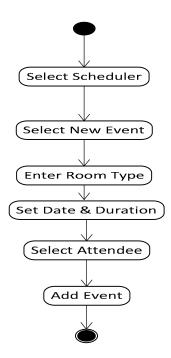


### 3.4 Activity Diagram

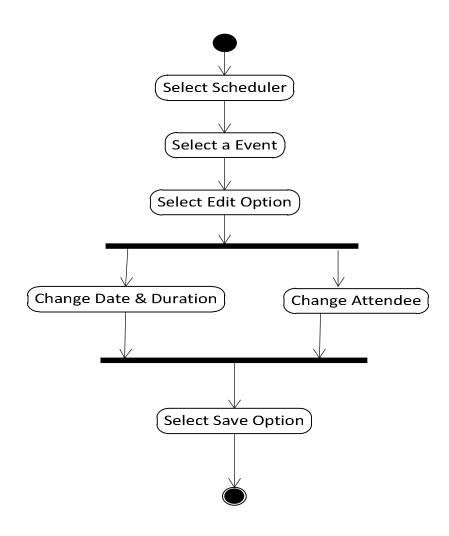
### Activity diagram for scheduling meeting



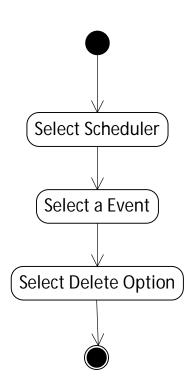
## Activity diagram for creating meeting



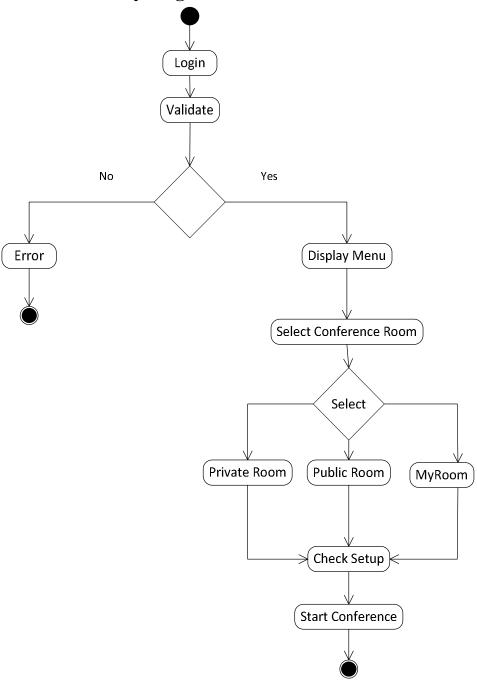
## Activity diagram for editing meeting



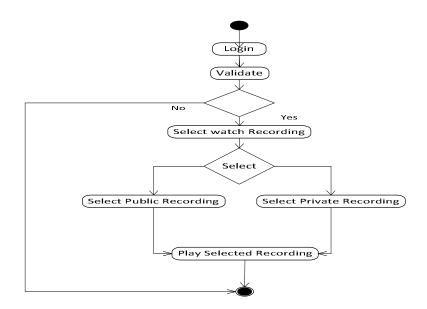
## Activity diagram for deleting meeting



## Activity diagram for audio/video conference

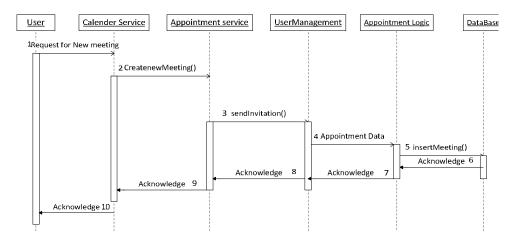


## **Activity Diagram for view recoding**

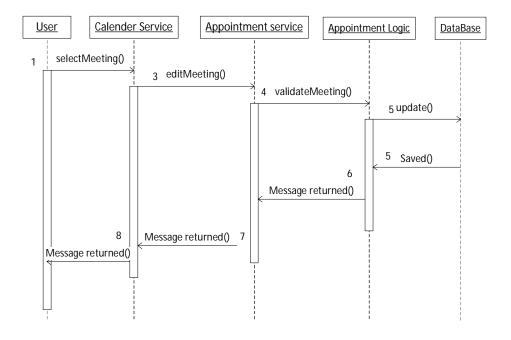


### 3.5 Sequence Diagram:

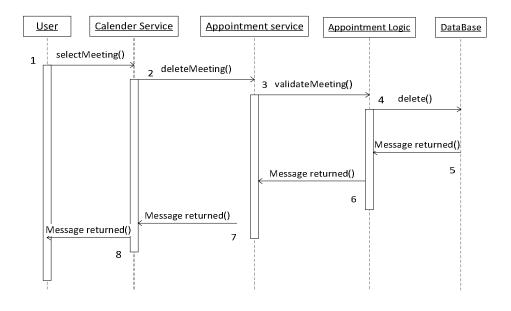
#### **Sequence Diagram for creating meeting**



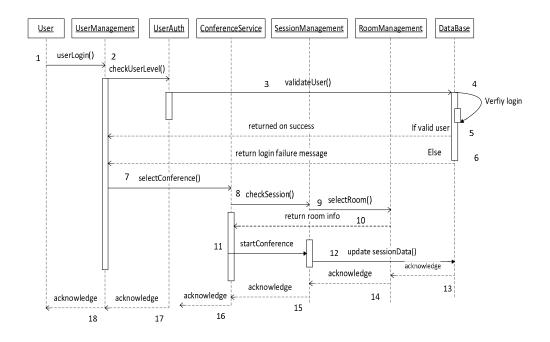
#### **Sequence Diagram for editing meeting**



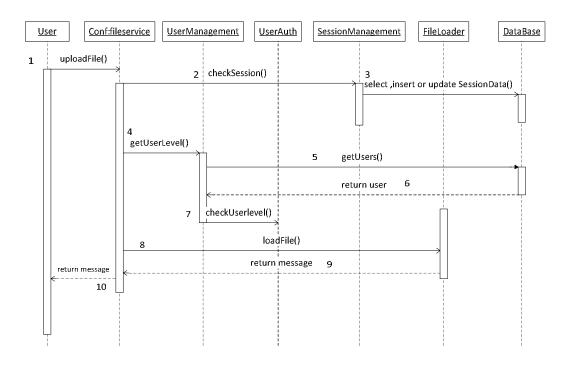
#### Sequence Diagram for deleting meeting



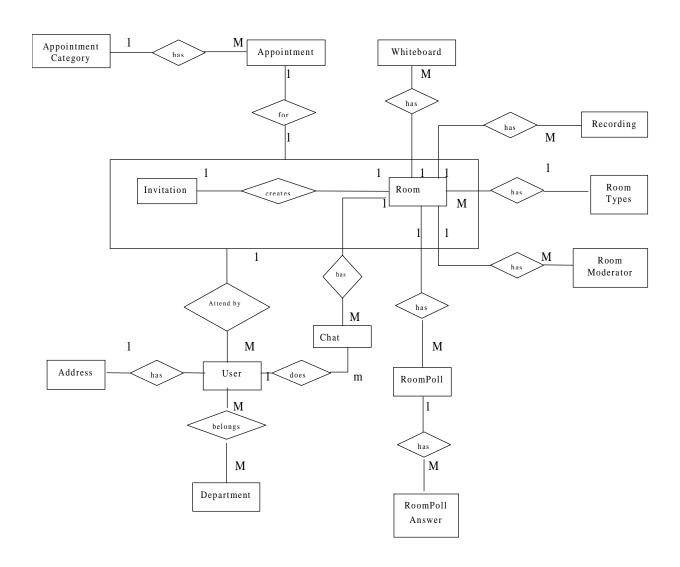
#### Sequence diagram for Audio/Video Conferencing



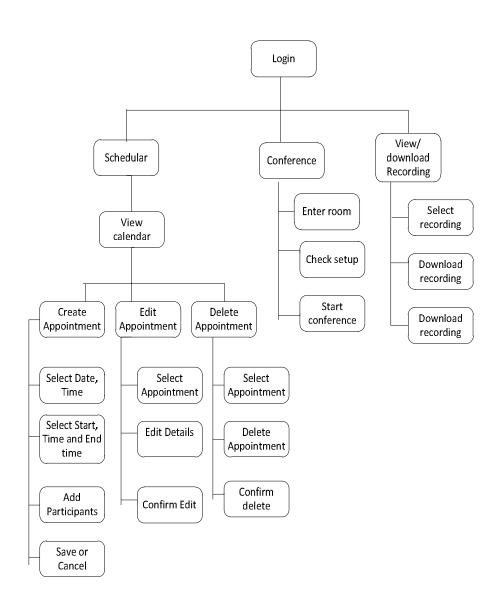
#### **Sequence Diagram for uploading document**



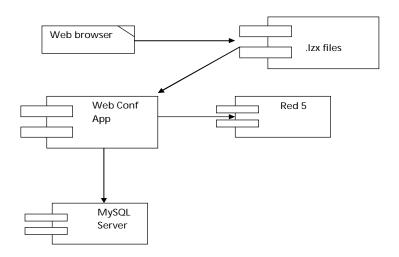
## 3.6 Entity relationship diagram



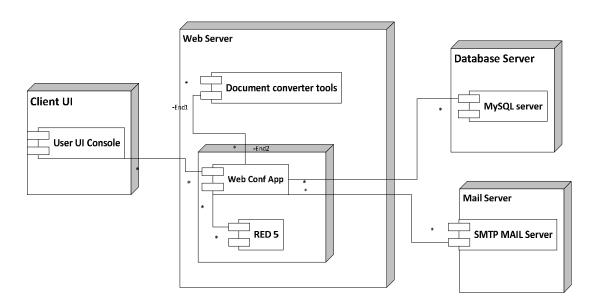
### 3.7 Module hierarchy diagram



# 3.8 Component Diagram



# 3.9 Deployment diagram



#### 3.10 Module Specification

Unified collaboration tool has following modules:

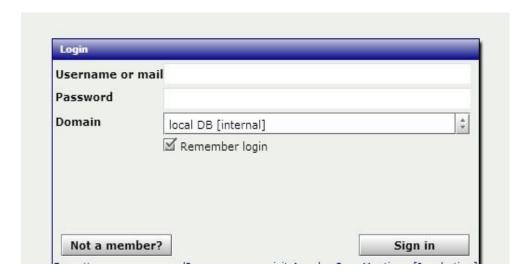
- Document Sharing during the meeting Employees can share the necessary related
   documents in pdf,docx,docetc format by selecting the
   participants during the meeting.
- Online meeting with audio/video chat Employees can arrange meetings with other employees throughout the organization.
- Recording the meetingRecording the meetings and storing the recording in some repository so that it can be used / accessed by employee in
- Creating ,Scheduling and launch of meetings Scheduling meetings and inviting the attendees.
   Sharing the calendar events with your contacts.

order to fulfil future needs.

• Instant messenger-Instant messenger allows the employees to enter their valuable comments during the meetings.

#### 3.11Input Screens:

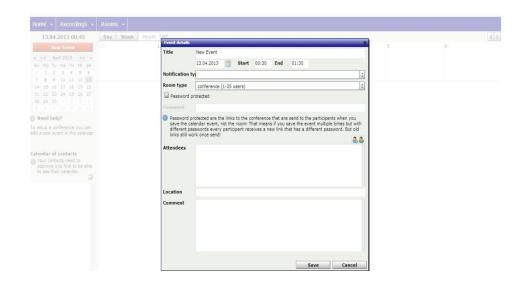
#### **Login Screen**



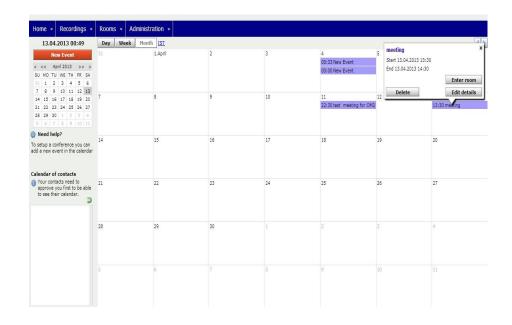
#### **Register User:**



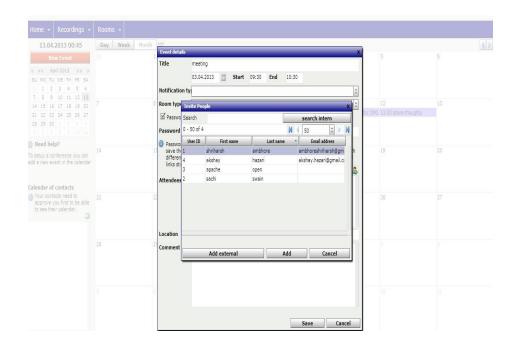
#### **Create Appointment:**



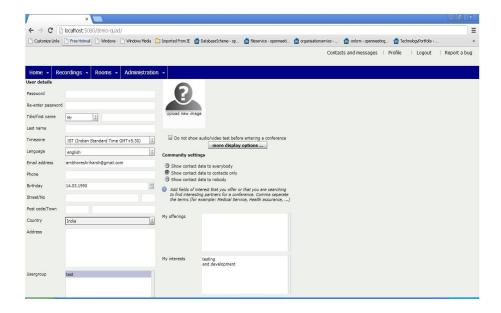
## Edit appointment:



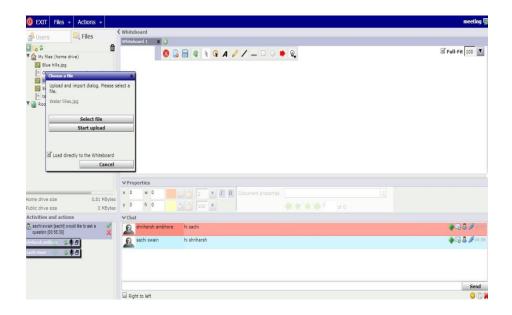
#### **Invitation to users:**



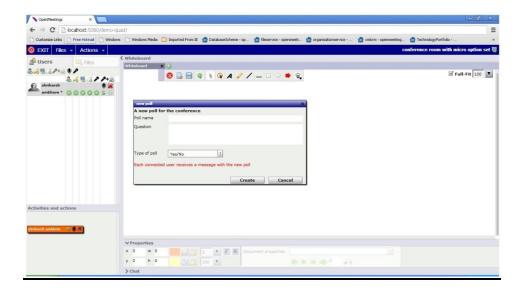
#### **Edit Profile:**



#### **Upload File in conference:**



#### **NEW POLL:**



## 3.12 Table Design

**Table 1: Adresses** 

Sr.N o	Name	Data Type	Size	Constrain t	Descripti on
1	Addresses_id	Bigint	20	Primary key	Adresses id
2	Additional name	Varchar	255		Additional name
3	Email	Varchar	255	Not null	Email id of User
4	Phone	Bigint	10	Not null	Phone no of user
5	Street	Varchar	255		Name of street
6	Town	Varchar	255		Name of Town
7	Zip	Varchar	255	Not null	Zip code of city/town

 Table 2 :Department

Sr .no	Name	Data Type	Size	Constraint	Description
1	Department_i	Bigint	20	Primary key	Department ID
2	Inserted by	Bigint	20	Foreign key	ID of user
3	Name	Varchar	255		Name of Department
4	Start time	Datetime			Start time of Department

Table 3:Users

Sr .no	Name	Data Type	Size	Constraint	Description
1	User_id	Bigint	20	Primary key	User ID
2	Age	Date time	20	Not null	Age of User
3	FirstName	Varchar	255	not null	First name of user
4	LastName	Varchar	255		Last name of user
5	Login	Varchar	255	Not null	Login of user
6	Password	Varchar	255	Not null	Password of user
7	Pictureuri	Varchar	255		URI of Users IMAGE
8	Regdate	Date time			Date of registration
9	Adresses_id	Bigint	20	Foreign key	Foreign key from adresses
10	Lastlogin	Date time			Date & time of Last Login
11	Starttime	Date time			Start Date & time
12	Update time	Date time			Update

**Table 4:Rooms** 

Sr .no	Name	Data Type	Size	Constraint	Description
1	Rooms_id	Bigint	20	Primary key	Room id
2	Name	Varchar	255	Not null	Name of room
3	Is_closed	Bit	1		Is room closed or not
4	Is_public	Bit	1		Is room public or not
5	Start time	Datetime			Start time of room
6	Update time	Date time			Update time of room
7	Is_moderator	Bit	1		Is user moderator or not
8	Roomtypes _id	Bigint	20	Foreign key	Roomtype primary key
9	Owner_id	Bitint	20	Foreign key	Room owner id

**Table 5:Roomtypes** 

Sr	Name	Data	Size	Constraint	Description
.no		Type			
1	roomtype_id	Bigint	20	Primary	Room type
				key	id
2	Name	Varchar	255		Name of
					roomtype
3	Start time	Datetime			Start time
4	Update time	Date time			Update time

**Table 6: Recording** 

Sr	Name	Data	Size	Constraint	Description
.no		Type			
1	recording_id	Bigint	20	Primary key	Recording id
2	Name	Varchar	255		Name of Recording
3	Start time	Datetime			Start time
4	Update time	Date time			Update time
5	Duration	Bigint	20		Duration of recording
6	User_id	Bigint	20	Foreignkey	Recorded by user_id
7	Room_id	Bigint	20	Foreignkey	ID of room in which recording took place

**Table 7: Appointment** 

Sr .no	Name	Data Type	Size	Constraint	Description
1	appointment_id	Bigint	20	Primary key	Appointment id
2	Description	Varchar	255		Description of appointment
3	Appointment_start time	Datetime		Not null	Start time of appointment
4	Appointment _endtime	Date time		Not null	End time of appointment
5	appointmentname	Vatchar	255	Not null	Name of appointment
6	Is_password_protected	Bit	1		Is appointment password protected or not
7	Room_id	Bigint	20	Foreignkey	ID of Room for the appointment
8	Category_id	Bigint	20	Foreign key	Id of appointment category
9	User_id	Bigint	20	Foreign key	User id
10	Location	Varchar	255		Location of appointment
11	Password	Varchar	255	Notnull	Password for appointment

**Table 8:Appointment Category** 

Sr .no	Name	Data Type	Size	Constraint	Description
1	Category_id	Bigint	20	Primary key	Category id
2	Name	Varchar	255		Name of Category
3	Start time	Datetime			Start time
4	Update time	Date time			Update time
5	User_id	Bigint	20	Foreignkey	Recorded by
					user_id

Table 9: rooms\_moderator

Sr	Name	Data	Size	Constraint	Description
.no		Type			
1	Room_moderator_id	Bigint	20	Primary	Room_moderator
				key	ID
2	Is_supermoderator	Bit	1		Is supermoderator
					or not
3	Start time	Datetime			Start time
4	Update time	Date time			Update time
5	User_id	Bigint	20	Foreignkey	Recorded by
					user_id

Table 10: Room\_poll

Sr	Name	Data	Size	Constraint	Description
.no		Type			
1	Room_poll_id	Bigint	20	Primary key	RoomPoll ID
2	Created	DateTIme		Notnull	Date and time when poll was created
3	Pollname	Varchar	255	Notnull	Name of the poll
4	PollQuestion	Varchar	255	Notnull	Questions in poll
5	User_id	Bigint	20	Foreignkey	user_id of user who created poll
6	Rooms_id	Bigint	20	Foreign key	Room in which poll was created

Table 11:room\_poll\_answer

Sr	Name	Data	Size	Constraint	Description
.no		Type			
1	id	Bigint	20	Primary	Id of room poll
				key	answer
2	Answer	Bit	1		Answered or
					not
3	Vote Date	Datetime			Date when poll
					was taken
4	Room_poll_id	Bigint	20		Room_poll ID
5	User_id	Bigint	20	Foreignkey	user_id

**Table 12:Invitations** 

Sr	Name	Data	Size	Constraint	Description
.no		Type			_
1	Invitations_id	Bigint	20	Primary key	Invitation id
2	Appointment_i d	Bigint	20	ForeignKe y	Appointmen t ID from Appointmen t Table
3	Start time	Datetime			Start time of invitation
4	Update time	Date time			Update time of invitation
5	User_id	Bigint	20	Foreignkey	Id of user who created invitation
6	invitationWasU sed	Bit	1		Invitation was accepted or not
7	Invited Email	Varchar	255		Email id of invited person
8	Is passwordprotec ted	Bit	1		Is password protected or not
9	IsvalidBytime	Bit	1		Is invitation valid by time or not
10	Validfrom	Datetime			Date from which the invitation is valid

Sr	Name	Data	Size	Constraint	Description
.no		Type			
11	Validto	Datetim			Date till
					which the
					invitation is
					valid
12	Roomed	Bitint	20	Foreignkey	ID of room
					associated
					with
					invitation
13	Invitedpass	Varchar	255		Password
					for
					invitation
14	InvitedName	Varchar	255		Name of
					invited
					person

Table13: Chat

Sr .no	Name	Data Type	Size	Constraint	Description
1	id	Bigint	20	Primary key	Chat id
2	From Email	Varchar	255		Email id of sender
3	From Name	Varchar	255		Name of sender
4	Message	Varchar	255		Message sent via chat
5	Sent	DateTime			Date time when the

					chat was send
Sr .no	Name	Data Type	Size	Constraint	Description
6	To Email	Varchar	255		Email id of receiver
7	Toname	Varchar	255		Name of receiver
8	From_user _id	Bigint	20	Foreign key	User id of sender
9	To room_id	Bigint	20	Foreign key	Room id where chat took place
10	To_user_i d	Bitint	20	Foreign key	Userid of receiver

Table14: whiteboard

Sr .no	Name	Data Type	Size	Constraint	Description
1	id	Bigint	20	Primary key	Id of whiteboard
2	Created	Datetime	1	·	Date & time when the whiteboard was created
3	Room_id	Bigint	20	Foreignkey	Room in which the whiteboard was created
4	Full fit	Bit	1		Is whiteboard full fit or not
5	X	Int	11	Not null	X co- ordinate of whiteboard
6	Y	Int	11	Notnull	Y co- ordinate of whiteboard
7	Zoom	Int	11		Zoom value of whiteboard

#### **3.13Test Procedures and Implementation:**

#### **Unit Testing:**

In unit testing, initially the focus is on each component individually ensuring that it functions properly. Various unit testing strategies include testing of module interfaces, local data structures, boundary conditions and all independent paths.

#### **Integration Testing:**

The integration testing is on design and the construction of the software architecture. The individually tested components are integrated as a complete software package. Black box test case designed techniques are the most prevalent during integration.

Integration testing is mainly performed to check whether all the components work together properly when they are integrated. Top down incremental approach or bottom up incremental approach can be followed during integration.

Top down integration testing is an incremental approach to construction of program structure, thereby verifying major control or

decision points early in the test process. Bottom up integration testing begins construction and testing with atomic modules i.e components at the lowest level in the program structure. Regression testing is re-execution of some subset of tests that have been already been conducted to ensure that changes have not propagated unintended side effects.

#### **Validation Testing:**

As the software has been integrated a set of higher order tests are conducted. Validation criteria established during requirements analysis must be tested. Validation testing provides final assurance that the software meets all the requirements and the specifications, functional, behavioural and performance requirements. Black box testing techniques are exclusively used during validation.

#### **Performance Testing:**

Performance testing is performed to test the runtime performance of the software within the context of an integrated system. It occurs throughout all the steps in the testing process. These are often coupled with stress testing and usually require both hardware and software implementation. This is often necessary to measure resource utilization.

#### **Security Testing:**

Security testing attempts to verify that protection mechanism built into a system will protect from improper penetration.

# **Test Cases:**

TEST CASE ID	Scenario to test	Steps to perform	Expected result	Actual result	Pass/fail
TCLogi n1	Login into applicatio n	1)open login page 2)enter valid username 3)enter valid and password 4)click on sign In button	Application should accept valid username and password entered by the user and should direct to the home page	Login to the applicat ion	pass
TCLogi n1.1	Login into applicatio n	1)open login page 2)enter valid username 3)enter invalid and password 4)click on sign In button	Application should not accept invalid username entered by the user and should throw invalid username error	Login denied with appropri ate message	pass

TEST CASE ID	Scenario to test	Steps to perform	Expected result	Actual result	Pass/fail
TcLogin 1.2	Login into applicatio n	1)open login page 2)enter valid username 3)enter invalid and password 4)click on sign In button	Application should not accept invalid Password entered by the user and should throw invalid password	Login denied with appropri ate message	pass
TCLogi n1.3	Login into applicatio n	1)open login page 2)enter invalid username 3)enter invalid and password 4)click on sign In button	error Applicatio n should not accept invalid Password and invalid username entered by the user and should throw invalid password error	Login denied with appropri ate message	Pass

TEST CASE ID	Scenario to test	Steps to perform	Expected result	Actual result	Pass/fail
TcLogin 1.4	Login into applicatio n	1)open login page 2)enter invalid username 3)enter invalid and password 4)click on cancel button	After clicking on the cancel button, Previously entered values for username and password should be deleted from the field	Login denied with appropri ate message	Pass

TEST CASE ID	Scenario to test	Steps to perfor m	Expected result	Actual result	Pass/fail
TCCr	Creation	1)open	Appointme	Appoin	Pass
eate2.	of	login	nt must be	tment	
0	appoint	page	created in	is	
	ment	2)enter	the system	created	
		valid			
		usernam			
		e and			
		passwor			
		d			
		3)click			
		on sign			
		in			
		button			
		4)click			
		on the			
		calendar			
		tab			
		under			
		dashboa			
		rd			
		5)calen			
		dar will			
		open			
		6)click			
		on new			
		event			
		7)Enter			
		time,			
		date			
		and			
		other			
		informa			
		tion			
		8)select			

		particip			
		ants			
		9)enter			
		the			
		descript			
		ion			
		10)click			
		on save			
TCCr	Creation	1)open	Applicatio	Appoin	Pass
eate2.	of	login	n should	tment	
1	appoint	page	redirect to	not	
	ment:	2)enter	the display	created	
	clicking	valid	page of the	and	
	cancel at	usernam	calendar	redirect	
	the end	e and		ed to	
		passwor		the	
		d		display	
		3)click		page of	
		on sign		calenda	
		in		r	
		button			
		4)click			
		on the			
		calendar			
		tab			
		under			
		dashboa			
		rd			
		5)calen			
		dar will			
		open			
		6)click			
		on new			
		event			
		7)Enter			

time,		
date		
and		
other		
informa		
tion		
8)select		
particip		
ants		
9)enter		
the		
descript		
ion		
10)click		
on		
cancel		

<b>m</b> ~ ~	I 1.				_
TCCr	Edit	1)open	Applicatio	Appointm	Pass
eate2.	schedule	login	n should	ent edited	
2	d .	page	reflect the	with new	
	appoint	2)enter	changes in	informati	
	ment	valid	the	on	
		username	appointme		
		and	nt		
		password			
		3)click			
		on sign			
		in button			
		4)click			
		on the			
		calendar			
		tab under			
		dashboar			
		d			
		5)calenda			
		r will			
		open			
		6) select			
		the			
		appointm			
		ent to be			
		edited			
		7)edit			
		info of			
		appointm			
		ent			
		8)click			
		on save			
1	<u> </u>	1	<u> </u>		I

TCCr	Delete	1)open	Applicatio	Selected	pass
eate2	Appointm	login	n should	appointm	•
.3	ent	page	delete the	ent is	
		2)enter	selected	deleted	
		valid	appointme		
		username	nt		
		and			
		password			
		3)click			
		on sign			
		in button			
		4)click			
		on the			
		calendar			
		tab under			
		dashboar			
		d			
		5)calenda			
		r will			
		open			
		6) select			
		the			
		appointm			
		ent to be			
		deleted			
		7)delete			
		option			
		will			
		appear			
		for			
		appointm			
		ent			
		8)click			
		on delete			

TEST CASE	Scenario to test	Steps to perform	Expected result	Actual result	Pass/f ail
ID					
TCCre	Enter	1)open	User will	The user	Pass
ate 3	conferen	login	enter the	enters	
	ce room	page	selected	the	
		2)enter	conference	selected	
		valid	room	room	
		usernam			
		e and			
		passwor			
		d			
		3)click			
		on sign			
		in button			
		4)select			
		the room			
		type			
		5)click			
		enter			
		6)select the			
		devices			
		7)click			
		Start			
		conferen			
		ce			
TCcre	Upload	1)open	User will	The	Pass
ate 3.1	documen	login	see the	selected	
	t In	page	selected	file is	
	conferen	2)enter	file on	seen on	
	ce	valid	whiteboard	whiteboa	
		usernam		rd	

		e and			
		passwor			
		d			
		3)click			
		on sign			
		in button			
		4)select			
		the room			
		type			
		5)click			
		enter			
		6)select			
		the			
		devices			
		7)click			
		Start			
		conferen			
		ce			
		8)select			
		file			
		option			
		from			
		tool bar			
		9)select			
		the file			
		to be			
		uploaded			
		10)click			
		upload			
		button			
TCCre	Record	1)open	User will	The	Pass
ate 3.2	meeting	login	be able to	ongoing	
		page	record the	conferen	
		2)enter	ongoing	ce is	
		valid	conference	recorded	

usernam		
e and		
passwor		
d		
3)click		
on sign		
in button		
4)select		
the room		
type		
5)click		
enter		
6)select		
the		
devices		
7)click		
Start		
conferen		
ce		
8)Select		
the		
action		
option		
from		
toolbar		
9)select		
share/rec		
ord		
screen		
10)select		
the area		
to be		
shared		
11)hit		
start		

		recordin g			
TTCre ate3.3	Pause recordin g	1)open login page 2)enter valid usernam e and passwor d 3)click on sign in button 4)select the room type 5)click enter 6)select the devices 7)click Start conferen ce 8)Select the action option from toolbar 9)select share/rec ord	The User will be able to pause the recording	The ongoing recording is paused	pass

	screen 10)select the area to be shared 11)hit start Recordin g 12)hit pause recordin g			
--	--	--	--	--

# CHAPTER 4 USER MANUAL

# 4.1 User Manual

The user manual is prepared reflexively because it is an item that must accompany every system. Manual is given so that there is quick reference about the system package. This manual will help users to navigate through the application and help users out whenever there is any trouble using application.

Information about the system:

Unified collaboration tool has following functions:

- 1. set up appointment with others
- 2. support daily/weekly/monthly view of appointments
- 3. Set up audio /video conference with participants
- 4. Share documents throughout the conference
- 5. Sending text messages to others
- 6. Recording the meeting
- 7. Support to download /play the recording

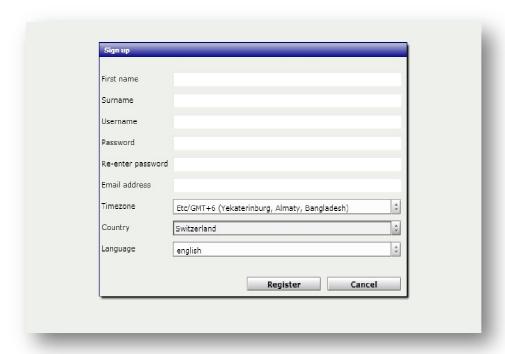
#### Navigation through the application



**Login:** you need to login with valid username or email id and password to use the application.

#### **Sign in for new Account (Register):**

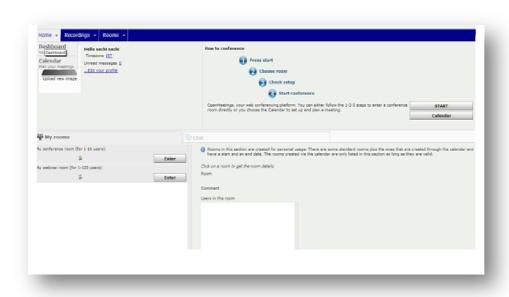
- If you are not registered with this application then click on the "Not a Member" button Not a member?
- The Sign up window requires the new user to provide some parameters i.e. username, password ,firstname ,lastname, etc



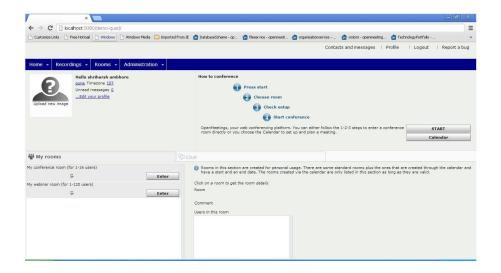
Once you have filled in the required information click on the button "Register" Register.

- If Successful you should be able to login by providing the correct Login credentials.
- On login user can view the home screen along with the Menu
   on the top left corner of the home page.
- You can also view the brief user information along with

image of user. Home page has instruction on how to start a conference.



**Edit Profile:** Once you have successfully logged into the system you can edit your profile. It is very straight forward process. The profile will let others know little bit more about you.



<u>Upload Image:</u> If you want to change the image you can do it so by clicking the "Upload new Image", which will prompt you to a popup window that asks you to choose the file.

- 1) Hit "upload new image" button
- 2) Hit "Select the file"
- 3) Browse the file to be uploaded
- 4) Once located click open
- 5) Then click start upload.

This might take a while until the picture is uploaded, when done it will automatically reflect the new image.

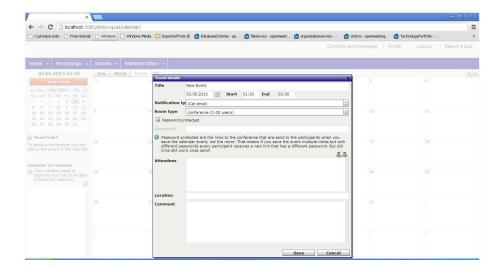


## **Scheduler:**

Under the Home menu user can view Calendar Scheduler services.

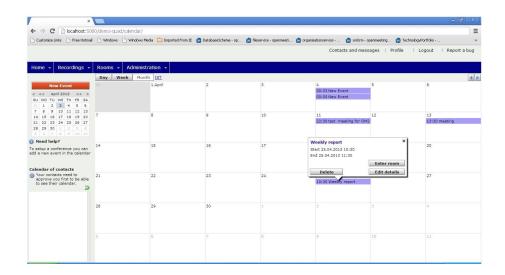
# **Create New Appointment:**

- To create a new appointment user can find the "new event "button.On clicking this new event will be displayed.
- Enter the correct Date, time, participants information and click on SAVE or Cancel. Created Appointment will be displayed on the calendar.



## **Edit /Delete Appointment**

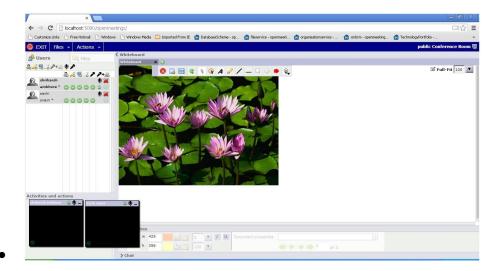
- To edit or delete existing appointment one has to click the event that he wishes to edit or delete.
- Enter the necessary information to edit the meeting.
- Click SAVE to edit the appointment.
- Click Delete to delete the appointment



# **Conferencing:**

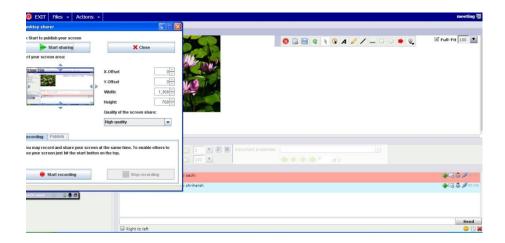
- User can enter the conference by clicking the Room option on home screen.
- User can select the Conference room he wants to enter
- Once you have entered the room you will be prompted with a question to choose the publishing devices.
- During conference user can select the file to be uploaded on the whiteboard to share it with participants by selecting the File option in conference room.

- Select the file to be uploaded and hit upload on whiteboard.
- On completion the file will be displayed on the whiteboard



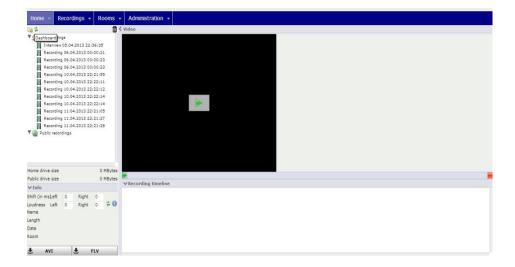
## **Recording:**

- User can record the entire meeting involving the audio/video
   and the activities on the whiteboard.
- On selecting the "start recording" the entire meeting till its end is recorded and is made available to users for viewing.



- For viewing the meeting Recordings users can navigate through the main menu item Recordings.
- Under recordings a list of Public and Private
   Recordings is populated.
- Public recordings are accessible to everyone.
- Private recordings are accessible to the owner itself only.
- User can even download the recording in either

## AVI of FLV format.



## 4.2 Operational Manual:

Login: you need to login with valid username or email id and password to use the application

Sign up: If you are not registered with this application then click on the "Not a Member" button to register with the system.

Edit Profile: Once you have successfully logged into the system you can edit your profile

Scheduler:Under the Home menu user can view Calendar Scheduler services. User can create, edit or delete meeting appointment.

Conferencing: User can enter the conference by clicking the Room option on home screen.

Recording:User can record the entire meeting involving the audio/video and the activities on the whiteboard.

# 4.3 Program Specification

Module:	Program Name	Constraint	Description
Scheduler	Create Appointment	Time ,Date and attendee must be selected	User can create appointment
	Edit appointment	Can change the date and time	Editing of created appointment
	Cancel appointment	Need to select the appointment	Appointment can b cancelled

Module:	Program Name	Constraint	Description
Authentication	Login	The required fields must not be null	To access the application user is given a login form

Module	Program name	Constraint	description
Conference	Meeting	Invitation should be send to user	a meeting with audio video conferencing is created

Module	Program	Constraint	Description
	name		
Recording	Create meeting recording	The meeting should be started	A recording of the meeting is created

# **Drawbacks and Limitations:**

- No support for High Definition Video streaming
- Not possible to attend meeting from mobile platform

# **Proposed Enhancements:**

- Sms reminder facility to be added.
- Integrating with Organization's intranet portals
- Support for single sign on (SSO)
- Hosting meeting from mobile
- Providing Cloud based service

#### **Conclusion:**

All the requirements stated by the company have been addressed in this software. The software categorization which includes:

- 1) Create new meetings
- 2) Display existing meetings
- 3) Edit meetings
- 4) Allow to record the meetings
- 5) Allow to play the meetings recordings
- 6) Allow to share documents with meeting member.

As we know that, any project even on completion required constant improvement and changes which gives way for release of new version. We made this application user friendly.

Bibliography
Books:
JAVA complete reference
Red5 video on demand flash server
Headfirst JAVA
Sites:
http://red5.org
http://stackoverflow.com

http://www.openlaszlo.org/

http://www.coderanch.com

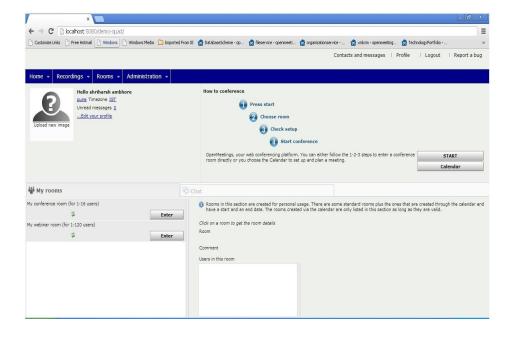
# **ANNEXURES**

**ANNEXURE 1: Input form with Data** 

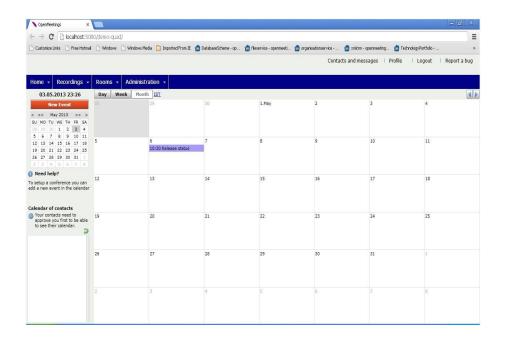
Login page



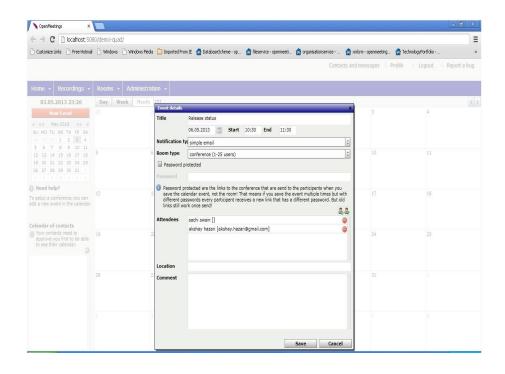
# Application home page



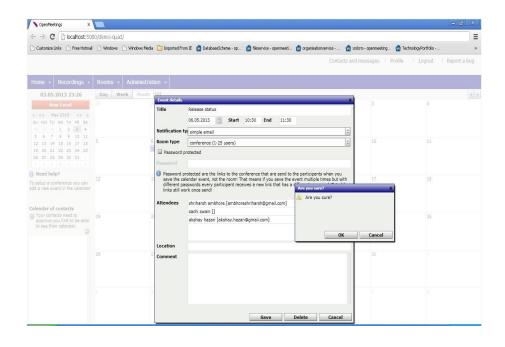
## Created meeting appointments



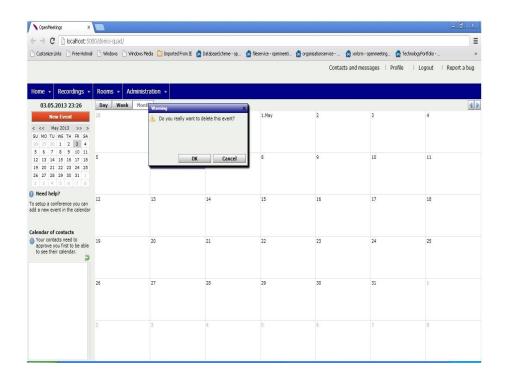
# Create meetings Appointment



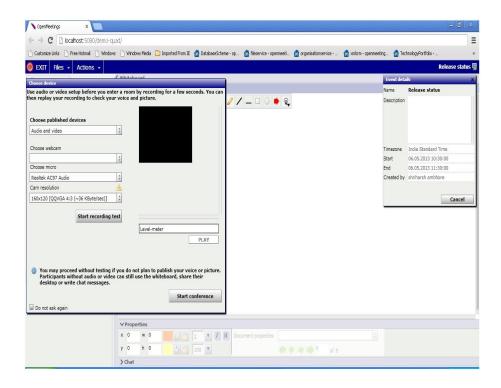
# Editing meeting appointment



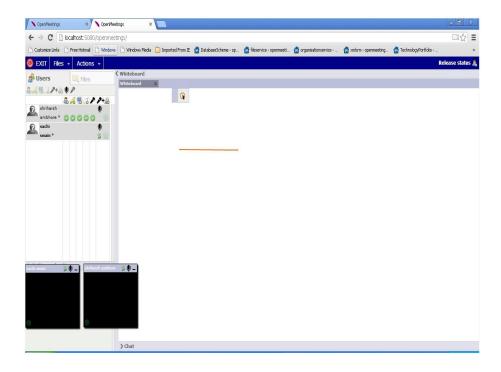
# Cancel the meeting appointment



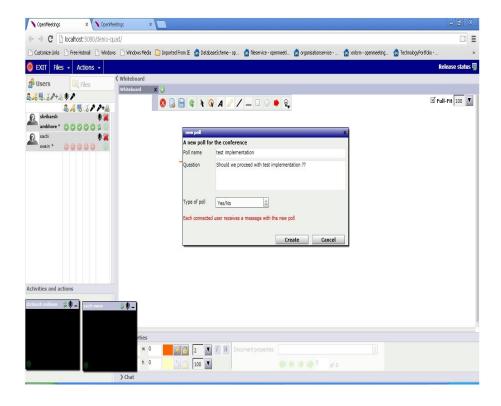
# Conference room configuration



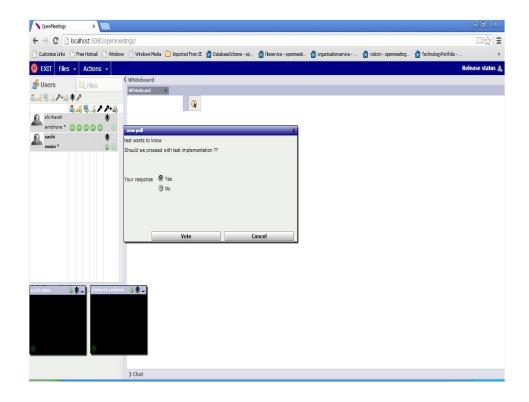
## Audio/Video Conference room with whit board



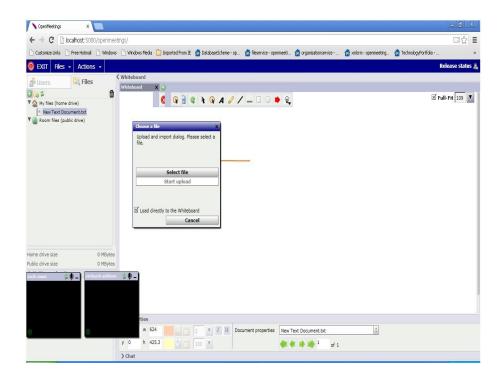
# Setting Poll questions in conference



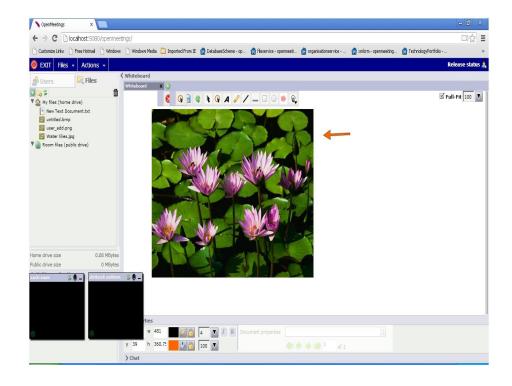
# Answering Poll question



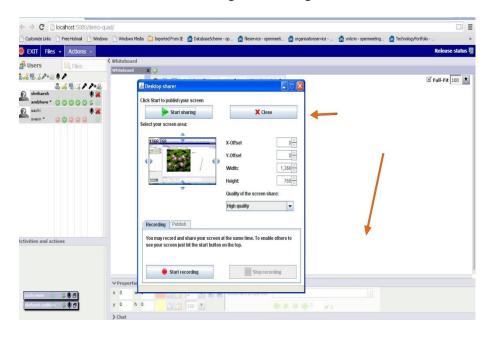
# Uploading file to whiteboard



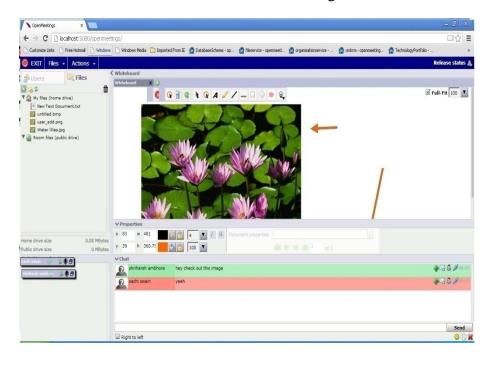
#### WhiteBoard contents



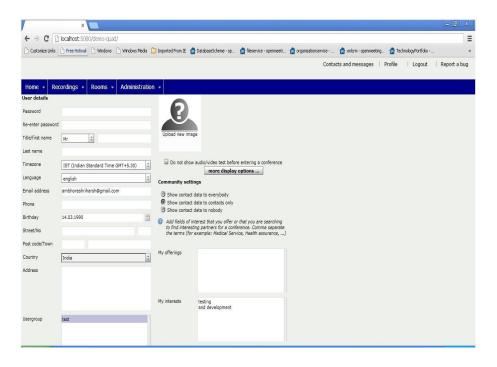
# Meeting Recording



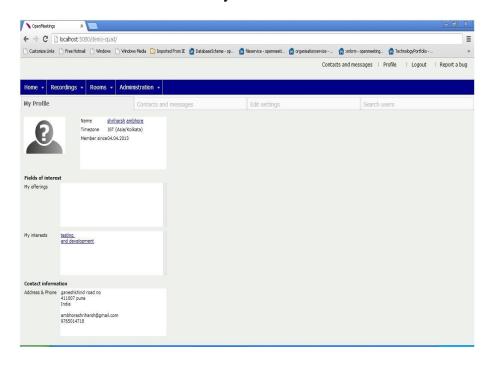
# Conference Instant messenger



#### Edit Profile

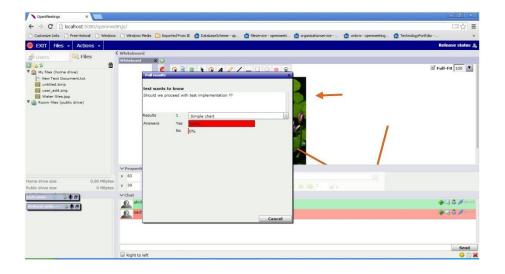


# My Profile

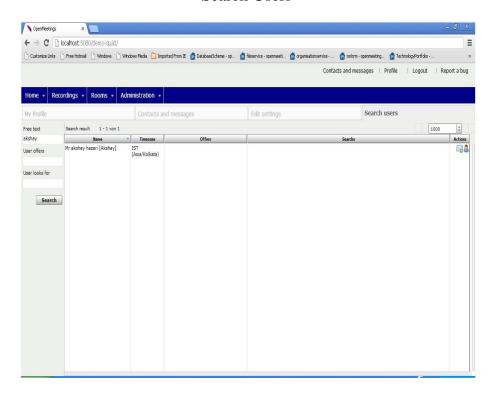


**ANNEXURE 2: Output Reports With Data** 

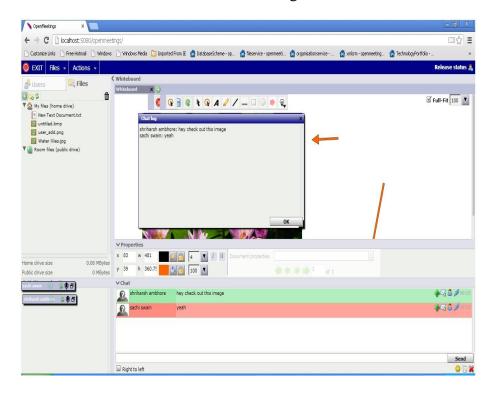
# Poll result



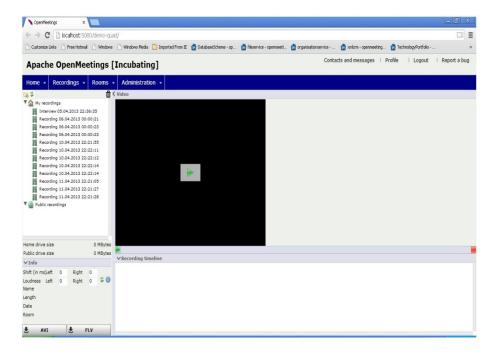
## Search Users



### View chat Log



# View meetings recordings



**ANNEXURE 3: Sample Program Code** 

## CreateAppointment.html

```
<html xmlns:wicket="http://wicket.apache.org">
      <wicket:head>
            k media="screen" type="text/css"
rel="stylesheet" href='css/fullcalendar.css' />
            <!-- link media="print" type="text/css"
rel="stylesheet" href='css/fullcalendar.print.css' /--> <!--
FIXME incorrectly rendered -->
            <script type="text/javascript">
                   function getCalendarHeight() {
                         return $(window).height() -
$('#calendar').position().top - 20; //FIXME HACK
                   }
                   function refetchEvents() {
      $('#calendar').fullCalendar('refetchEvents');
                         window.setTimeout(refetchEvents, 10
* 1000);
                   }
```

```
function calendarInit() {
                          $('#calendar').fullCalendar({
                                header: {
                                       left: 'prev,next today',
                                       center: 'title',
                                       right:
'month,agendaWeek,agendaDay'
                                , editable: true
                                , allDaySlot: false
                                , axisFormat: 'HH(:mm)'
                                , selectable: true
                                , defaultEventMinutes: 60
                                , timeFormat: {
                                       agenda: 'HH:mm{ -
HH:mm}'
                                       , ": 'HH(:mm)'
                                , height: getCalendarHeight()
```

```
, windowResize: function() {
      //$('#calendar').data().fullCalendar.option('height',
getCalendarHeight());
                                      this.option('height',
getCalendarHeight());
                                }
                                , eventDrop: dropEventFunc
//TODO confirm ??
                                , eventResize: resizeEventFunc
//TODO confirm ??
                                , eventClick: eventClickFunc
                                , select: selectFunc
                                , eventSources: [
                                       {
                                             events:
fetchEventsFunc
                                             //, color: '#4793E6'
                                             //, textColor:
'black'
                                       }
```

```
]
                          });
                          refetchEvents();
                          $('#appointment').dialog({
                                closeOnEscape: true
                                 , resizable: true
                                 , width: 450
                                 , autoOpen: false
                                 , modal: true
                          });
                    }
             </script>
      </wicket:head>
      <wicket:panel>
             <script type="text/javascript"</pre>
src="js/fullcalendar.min.js"></script>
             <div wicket:id="calendar"></div>
             <!-- bottom section -->
```

```
<div id="appointment"</pre>
wicket:ommessage="title:815">
             <form wicket:id="appointment">
                  <wicket:ommessage
key="572" />
                           ="text"
wicket:id="appointmentName" />
                      <wicket:ommessage
key="570" />
                           <span
wicket:id="appointmentStarttime"></span>
                      <wicket:ommessage
key="571" />
                           <span
wicket:id="appointmentEndtime"></span>
```

```
<wicket:ommessage
key="565" />
                         <select
wicket:id="remind" ></select>
                    <input
type="checkbox" wicket:id="createRoom"
/><wicket:ommessage key="1509" />
                    <wicket:ommessage
key="619" />
                         <select
wicket:id="room.roomtype" ></select>
                    <wicket:ommessage
key="406" />
```

```
<select
wicket:id="room" ></select>
                      <input
type="checkbox" wicket:id="isPasswordProtected"
/><wicket:ommessage key="524" />
                      <wicket:ommessage
key="525" />
                          td><input
type="password" wicket:id="password" />
                      <td
colspan="2"><wicket:ommessage key="1445" />
                     <!--
```

```
<wicket:ommessage
key="803" />
                            <select
wicket:id="meetingMember" ></select>
                        <wicket:ommessage
key="569" />
                            ="text"
wicket:id="appointmentLocation" />
                        <wicket:ommessage
key="573" />
                            <textarea
wicket:id="appointmentDescription"></textarea>
                        <!-- tr>
                            <td colspan="2"
style="text-align: right"><input type="button"
wicket:id="save" /><input type="button" wicket:id="cancel"
```

/>