

DIGITAL MEETING PORTAL

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

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We hereby declare that this project has been done by us under the supervision of **Prof. Dr. Syed Akhter Hossain, Head, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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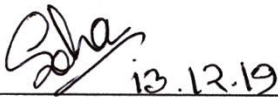


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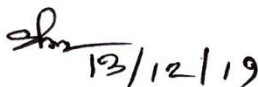
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ABSTRACT

Digital Meeting is an electronic meeting system in a paperless environment which is much more than traditional face to face paper-based meeting. Designed to elevate transparency and practice good governance, it provides features that are meant to streamline the entire meeting process – from pre-meeting preparation all the way to meeting proceedings. As a paperless meeting solution, it saves money on printing costs, reduces preparation time, and meets sustainability targets. Available on all platforms it allows decision-makers to access documents anytime and anywhere through the web app and protect Confidential Information. As it automates a phase of meeting from start to finish which contains all the meeting info like previous meetings, upcoming meetings and ongoing meetings. Here two levels of users. One is admin and the other is user. The admin will do all the entire works in this system from scheduling meetings, creating agenda, setting access level, inviting participants to publish meeting as pre-meeting preparation. While during meeting process admin will start the meeting, open agenda and discuss them with real time annotation sharing with providing live discussion and live document presentation. After ending meeting as post meeting distribution admin can export meeting minutes and keep an action tracking system to track the action items raised during meetings. On the other side participant user provided with meeting code and they will access the meeting pages and view agenda while admin starts the meeting and if they are authorized to do live commenting by admin, they can also discuss among them about the agenda through live chat. In the future, further data analytics can be implemented to improve the prediction.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Digital Meeting Portal is an easy to understand, effective suite of web-based meeting applications for more astute meetings – less exertion with better outcomes. It streamlines a meeting procedure from beginning to end. Meeting users can utilize the web-based interface to proficiently plan meetings, invite and produce meeting materials, radically slicing the time expected to get ready for a meeting. With Digital Meeting Portal, meetings will include zero sheets of paper and just five minutes to get ready meeting data. Which will provide a hassle-free meeting experience. Built with feature-rich tools, it empowers its clients to run digital meetings which upgrade straightforwardness and responsibility in an organization. With this app meeting members are able to securely create meetings, join meetings, access documents, assign action items and review notes instantaneously on their preferred device. As a paperless meeting arrangement, it gets a good deal on printing costs, diminishes planning time and meets manageability targets.

1.2 Motivation

The typical issues of meetings, for example, absence of support from members, domination by a handful of members and low level of interaction in discussions. Other than previous meetings, notices are sent to participants, agenda items are finalized and hundred-page or more board packs are printed and republished with each new update and when meeting finished, meeting procedures are printed. These elements made us think to make an electronic meeting system which is a paperless situation and makes more interaction among members and meeting procedures remains cool.

Another factor is that the vast majority don't record or translate their expressed correspondence in meeting time. That is fine on the grounds that a large portion of that discussion isn't viably conveying data as a result of the reasons recorded in this article. With an electronic meeting system, there can be making a naturally substantial record of the discussion.

In other way, if meeting member attempts to get a message crosswise over to an enormous number of individuals in one go, can't ensure that the entirety of his crowd is tuning in or focusing on that. Indeed, even in some agenda, if the meeting conductor want to participate only specific member then they need to reschedule another meeting. These issues can be unraveled effectively utilizing an electronic meeting system.

In busy environments in a meeting, instead of anticipating that somebody should offer a response to a choice promptly, placing it in an electronic meeting system and giving them an opportunity to think about what was asked, can be undeniably more powerful than remaining before them pausing. An electronic meeting system can take care of this issue.

1.3 Objectives

Our interest to make meeting progressively successful and making paperless condition utilizing our Digital Meeting Portal application. Which is a stage for continuous correspondence without thinking about any kind of interruption. Meanwhile our system is additionally cost-effective, convenient and efficient methods of correspondence. Our key objectives are given below.

- Paperless environment for meeting
- Cost efficient electronic meeting system
- Keeping meeting discussion more on the point
- Dynamic Meeting Discussions
- Easy Meeting Preparation
- Proper Meeting proceedings
- Fast Document Distribution
- Review past meetings
- Download private and shared annotations on meeting documents
- Allocate action items to meeting participants and sort outstanding tasks
- Generate and disseminate meeting minutes and summary instantly
- Real-time interaction
- Keeping meetings focused on making decisions

1.4 Expected Outcome

Cut down meeting preparation time and logistical expenses.

1.4.1 Simple Meeting Management

Board members need a solution that would enable them to fill in as productively and adequately as could be expected under the circumstances. Entrusted with the obligation of giving guidance for the association, executives need apparatuses that will empower them to carry out their responsibilities skillfully. Planned explicitly to address the issues of authoritative pioneers, Digital Meeting Portal gives you unlimited authority over the whole meeting procedure – from pre-meeting readiness to post-meeting report appropriation. As a result, an organizer can easily fix meeting and even after creating meeting he can update any info to change anything of the meeting.

1.4.2 Varied Information Representation

Printed materials can just suit various sorts of media. With paperless meeting arrangements, the possibilities are endless. Non-text or graphic information, for example, audio and video can be effectively incorporated into board materials so as to upgrade and lift board discussions. As we move into the digital age, the requirement for an adaptable digitized meeting arrangement turns out to be additionally squeezing as executives become increasingly capable with technological advancements.

1.4.3 Efficiency Gains

Whenever utilized accurately, board portals can bring about huge effectiveness gains. By permitting simple coordinated effort of documents, just as guaranteeing your team members just access the documents and areas of your board portal that they have to, board portals improve effectiveness as well as confine potential security breaches. Not only your departments but your personal assistants also benefit from efficiency gains. Agendas can be collaborated and sent out digitally. Board members can be notified, invited and their reactions logged digitally. Board meeting minutes can be taken, saved and archived digitally. Wave goodbye to unreliable, space consuming filing of paper notes and keep them all stored in your board portal.

1.4.4 Paperless Environment

Moving to paperless board meetings brings huge productivity increases and we haven't addressed the positive environmental effect.

1.4.5 Accountability

All the documents are accessed and updated in the board portal are time stamped and noted with who made the necessary edits, while the more efficient nature of your platform means you can provide clearer objectives and agenda items.

1.4.6 Cost Efficiency

With a Digital Meeting app, zero printed pages, zero inked and bounded meeting packs, zero meeting packs sent through courier. The expended effort, even though not wholly zero, is also dramatically reduced as the process is automated. With just a few clicks, an organizer can create and email agenda meeting files. Better yet clients can access them in real-time instead of always waiting for days before the pack.

1.5 Report Layout

We designed this digital meeting project report on the basis of six layouts. All of them are discussed below.

1.5.1 Chapter 1: Introduction

Introduction, Motivation, Objectives and expected outcomes all these four themes are discussed in this layout.

1.5.2 Chapter 2: Background

This design explores the context of the web application, comparative studies, the nature of the issues, challenges of all these five topics.

1.5.3 Chapter 3: Requirement Specification

This layout discusses business processing model, requirements, case modeling, logical data model and description of all these five topics.

1.5.4 Chapter 4: Design Specification

In this format, Front & Back End development, interface and UX design, implementation specifications are addressed.

1.5.5 Chapter 5: Implementation and Testing

Implementations of Database, Front-end interactions, test output and reports all these five themes are discussed in this layout.

1.5.6 Chapter 6: Conclusion and Future Scope

Conclusion, Discussion and scope for future work are discussed in this layout.

CHAPTER 2

BACKGROUND

2.1 Introduction

In this digital period, numerous corporate boards still go with conventional paper-based meetings while utilizing paper for board meetings is progressively getting illogical, inefficient and even dangerous. For what reason is it significant for organizations to pick Digital Meeting Portal solutions? How can the age-old technology be problematic for an organization? Until a couple of decades, if not years back, the minor thought of utilizing an electronic meeting room in an association would have seemed like something coming straight out of a science fiction novel. However, because of the quick progress of troublesome innovation lately, that idea is not fictional any more.

Our Digital Meeting Portal application feature can be separated into pre-meeting arrangement, during meeting procedure and post meeting document distribution.

2.2 Related Works

We found Boardable, BoardMaps, Ibabs and eMeeting web applications related to our Digital Meeting Portal web application. A brief description of the related web application is given below:

2.2.1 Boardable

Boardable is board management software built by nonprofit founders. The key features are Centralized Communication, Streamlined Scheduling, Seamless Integration, Dynamic Agendas, Safe and Secure [1].

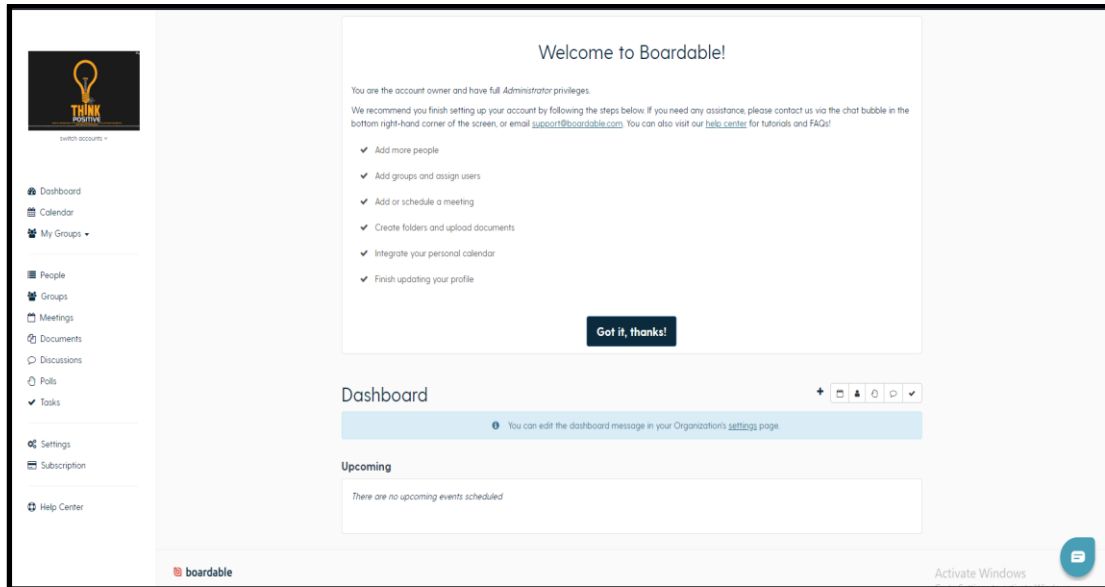


Figure 2.1: Boardable Dashboard

In figure 2.1, it shows the dashboard of the Boardable web application.

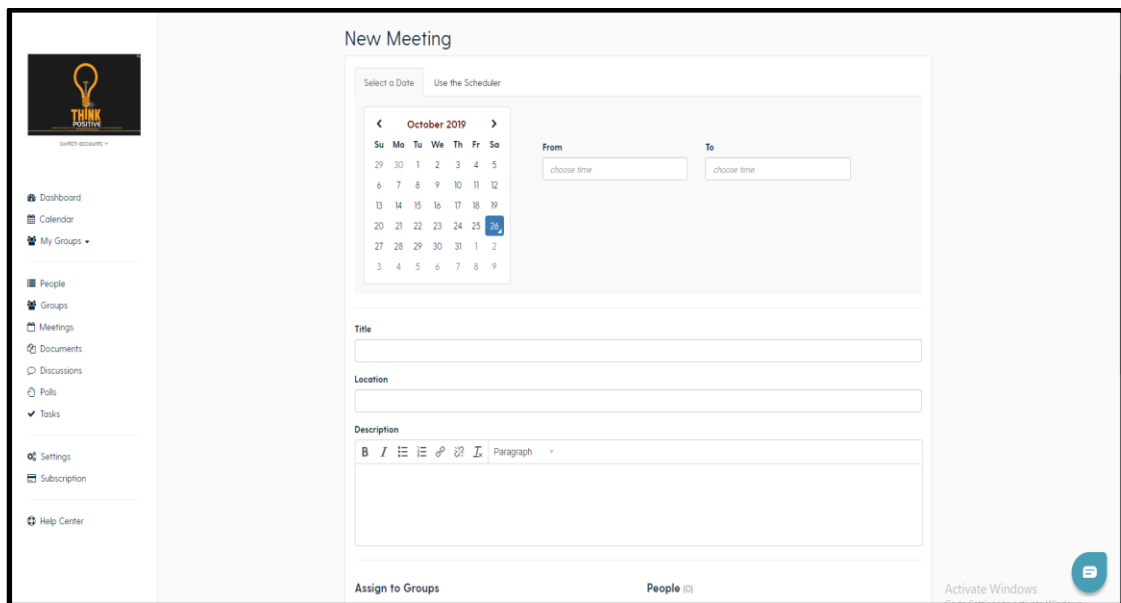


Figure 2.2: Boardable Create Meeting

In figure 2.2, it shows the create meeting page of Boardable web application. To create a meeting here, a user needs to choose the meeting date, enter meeting title, meeting location, meeting description, assign people in groups etc.

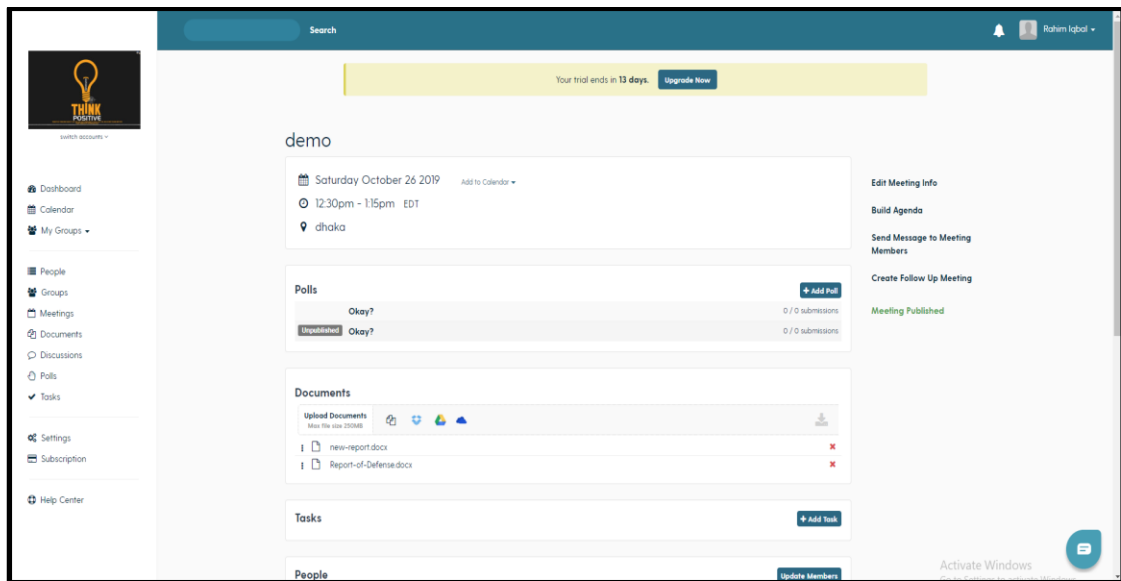


Figure 2.3: Boardable Preview Meeting Page

In figure 2.3, here we can see the meeting preview which is already published. It contains the meeting title, date, location, polls, documents, tasks, peoples etc.

2.2.2 BoardMaps

BoardMaps is an all-in-one solution for meetings, consistence and decision management. It can host any kind of meeting and it specially serves board meeting of any company and provide support. Any company needs to buy license from them to implement this system in their company with the support of their team.



Figure 2.4: BoardMaps Dashboard

In figure 2.4, it shows the BoardMaps dashboard page.

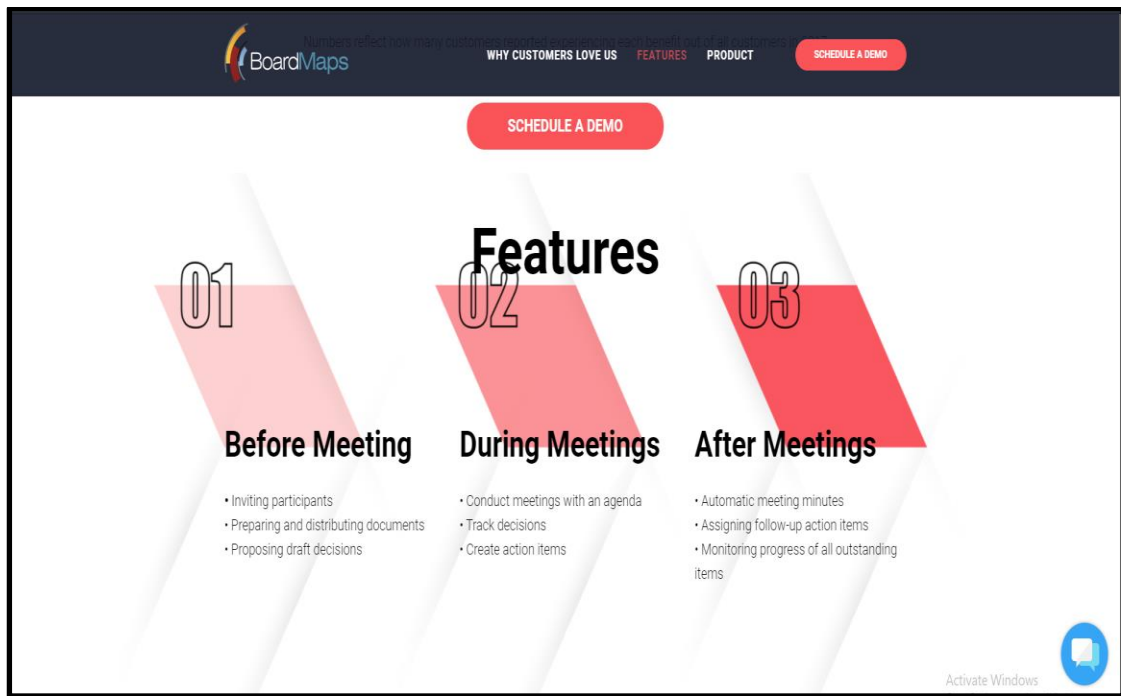


Figure 2.5: BoardMaps Meeting

In figure 2.5, we can see, this page contains the types of meetings as before meeting, during meetings and after meetings option.

2.2.3 Ibabs

Ibabs is the board portal which organize and run board meetings more efficiently. It features effective & easy meeting management [2].

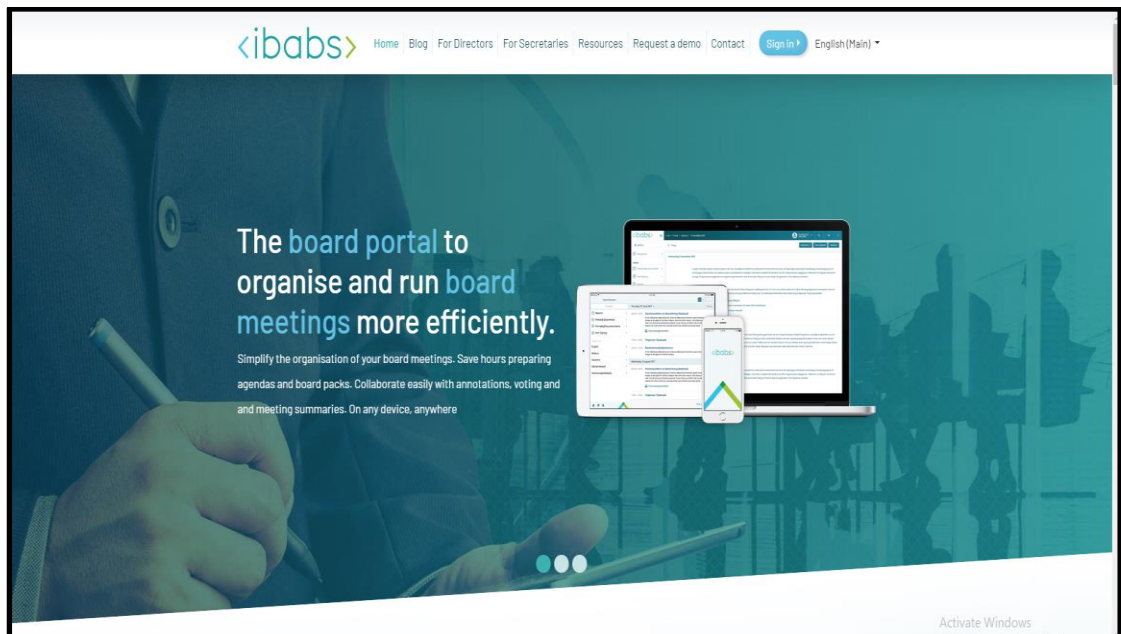


Figure 2.6: Ibabs Dashboard

In figure 2.6, it shows the Ibabs dashboard page.

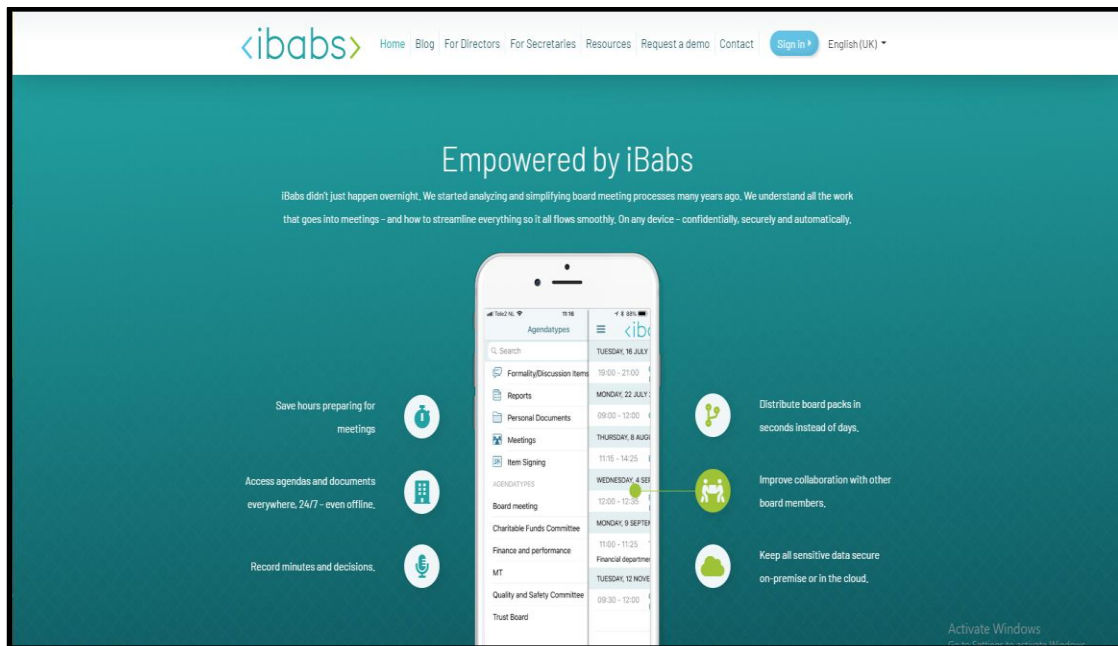


Figure 2.7: Ibabs Meeting Features

In figure 2.7, Meeting features has been shown in this page.

2.2.4 eMeeting

eMeeting is the meeting portal for universities which is built by the two students of Daffodil International University.

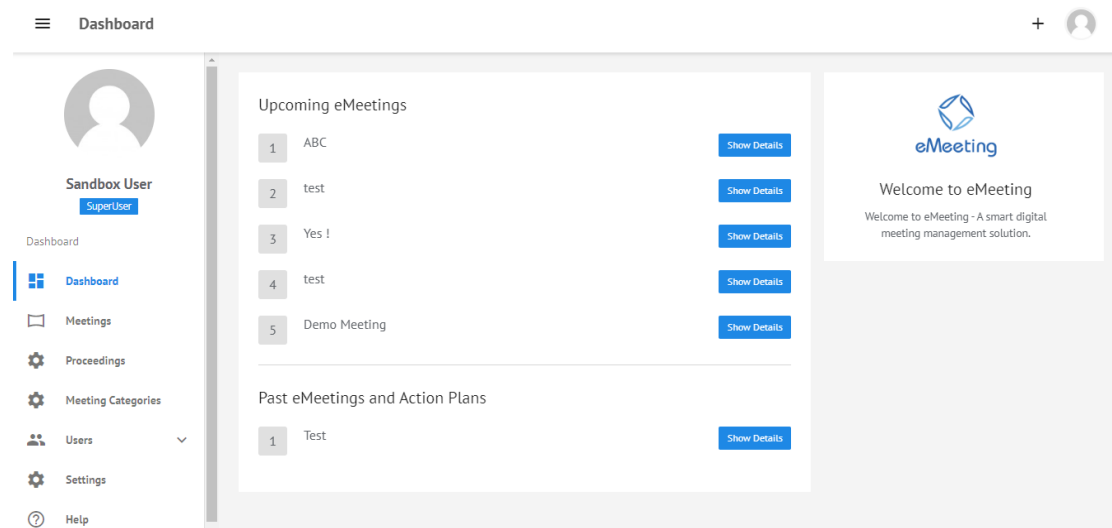


Figure 2.8: eMeeting Dashboard

In figure 2.8, eMeeting Dashboard page contains the upcoming eMeeting, past eMeeting and action plans.

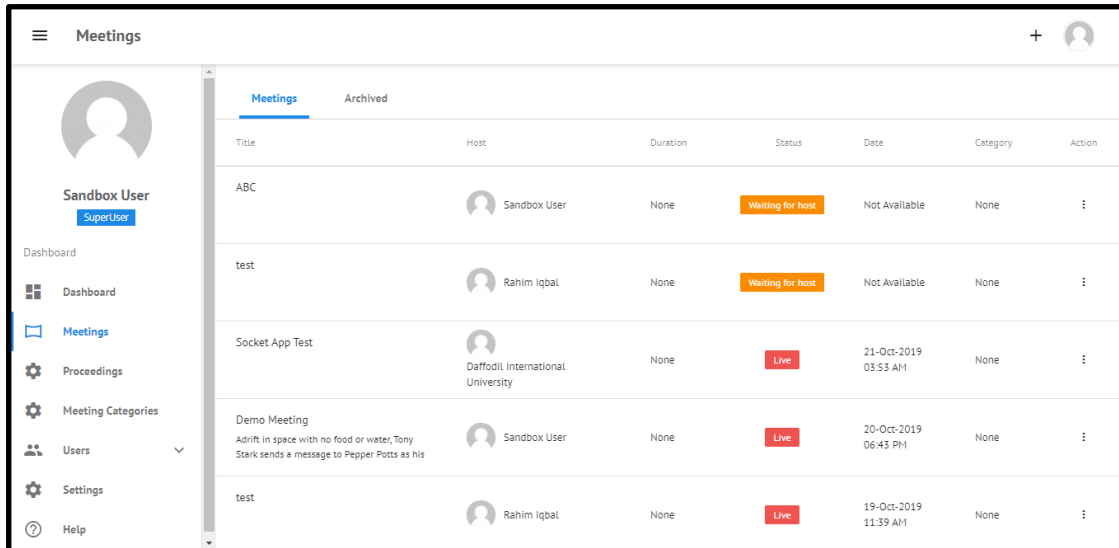


Figure 2.9: eMeeting Meeting Page

In figure 2.9, meeting page shows all the past, current and upcoming meetings.

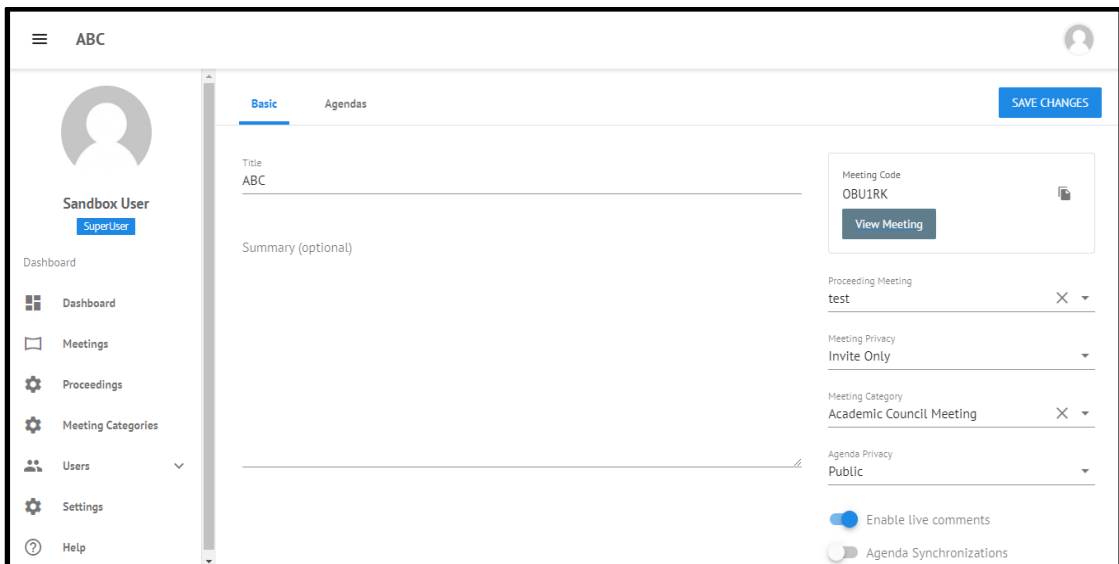


Figure 2.10: eMeeting Create Meeting Page

In figure 2.10, to create a meeting in eMeeting web application, a user needs to enter meeting title, proceeding meeting, meeting privacy, meeting category and agenda privacy.

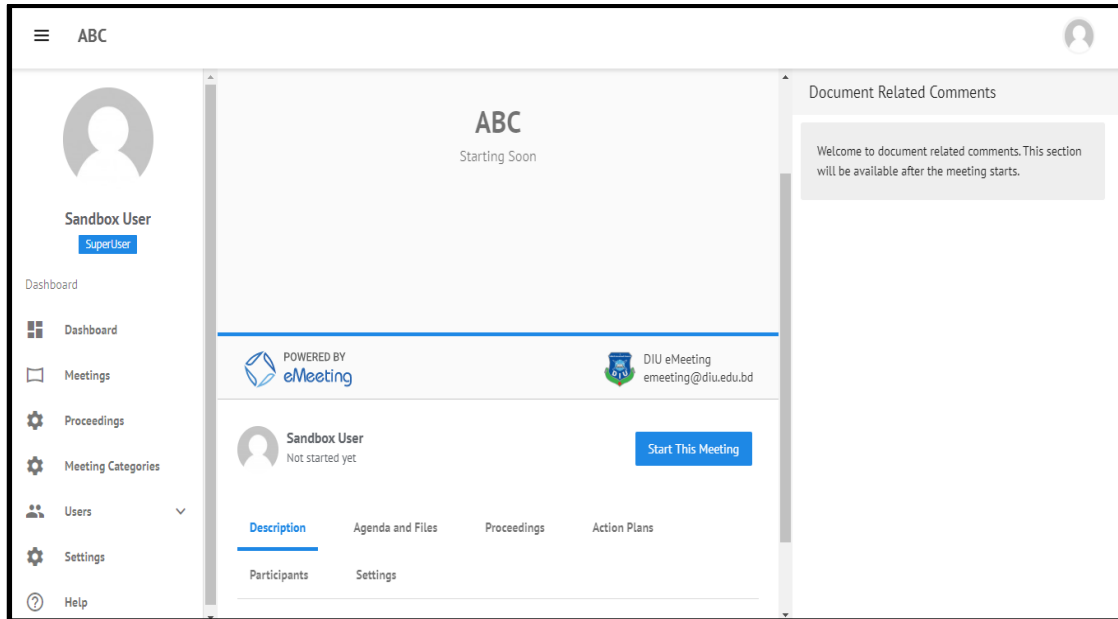


Figure 2.11: eMeeting Live Meeting Page

In figure 2.11, in live meeting page, there will be a “Start This Meeting” button to start the meeting. And all the meeting documents will display here.

2.3 Comparative Studies

We analyzed some electronic meeting apps which are pretty good site but a bit complex. From surfing those apps, we gained ideas and analyzed how to make a simpler electronic meeting system which will be more user friendly.

Table 2.1: Comparative Studies

Web-Application	Name	Key Features	Pros & Cons
Related	Boardable	Meeting Management, Meeting proceedings, Task Management, Group Management, Document Management, Discussion/Chatting	It covers all necessary features but all of them in a complex way.
Related	BoardMaps	Meeting Management, Task Management, Group Management, Document Management,	It's not for all kind of meeting or discussion also much more

		Discussion/Chatting	complex.
Related	Ibabs	Meeting Management, Task Management, Group Management, Document Management, Discussion/Chatting	It's not for all kind of online meeting or discussion also cost effective
Related	eMeeting	Meeting Management, Meeting proceedings, Discussion/Chatting	This system can host any kind of meeting and completely paperless.
Our System	Digital Meeting Portal	Meeting Management, Meeting proceedings, Discussion/Chatting	Our system is focused on some specific meeting which is easy and efficient

In table 2.1, we can see the main differences between the related web applications and our Digital Meeting Portal application. As our web application basically made for universities indoor department meetings, it will be very easy to use for the user.

2.4 Scope of the Problem

Digital Meeting Portal is mainly focused on hosting meeting, while making this app we have to face many troubles and problem given below.

- Making User Friendly
- Implementing MERN Stack
- Properly Specifying Requirements

2.5 Challenges

We analyze before building this application to find out the challenges is given below:

2.5.1 User friendly and lite UI

As the main purpose of our app to host and process meeting so needed to brainstorm hardly how we can design our app. We designed the UI as simple as we could so the user can easily get an idea of how it works.

2.5.2 Simplicity

A number of electronic meeting app are already on the internet. But the thing is most of them aren't that much of simple for user to understand quickly. Suppose we're hosting a meeting through this electronic meeting app we can't guarantee that all of the participants are used to that meeting environment. As such it creates chaos in the beginning. Now we are focusing on how to reduce initial hardness for new participants using this system.

2.5.3 Reducing bugs

As we just completed building the first version. Still there are some bugs which needed to be fixed. We'll work on these issues as much as we can.

2.5.4 Including new features & Technology

We couldn't complete all the features as we thought to implement initially due to some boundaries. But we're focusing on how to recover from this challenge.

2.5.5 Security

Still there are lots of security issues in our app. We're attempting to resolve them.

CHAPTER 3

REQUIREMENT COLLECTION AND ANALYSIS

3.1 Business Process Modeling

Business procedure modeling speaks to the business procedure or work process as a method for recognizing potential enhancements. The business process modeling is given below:

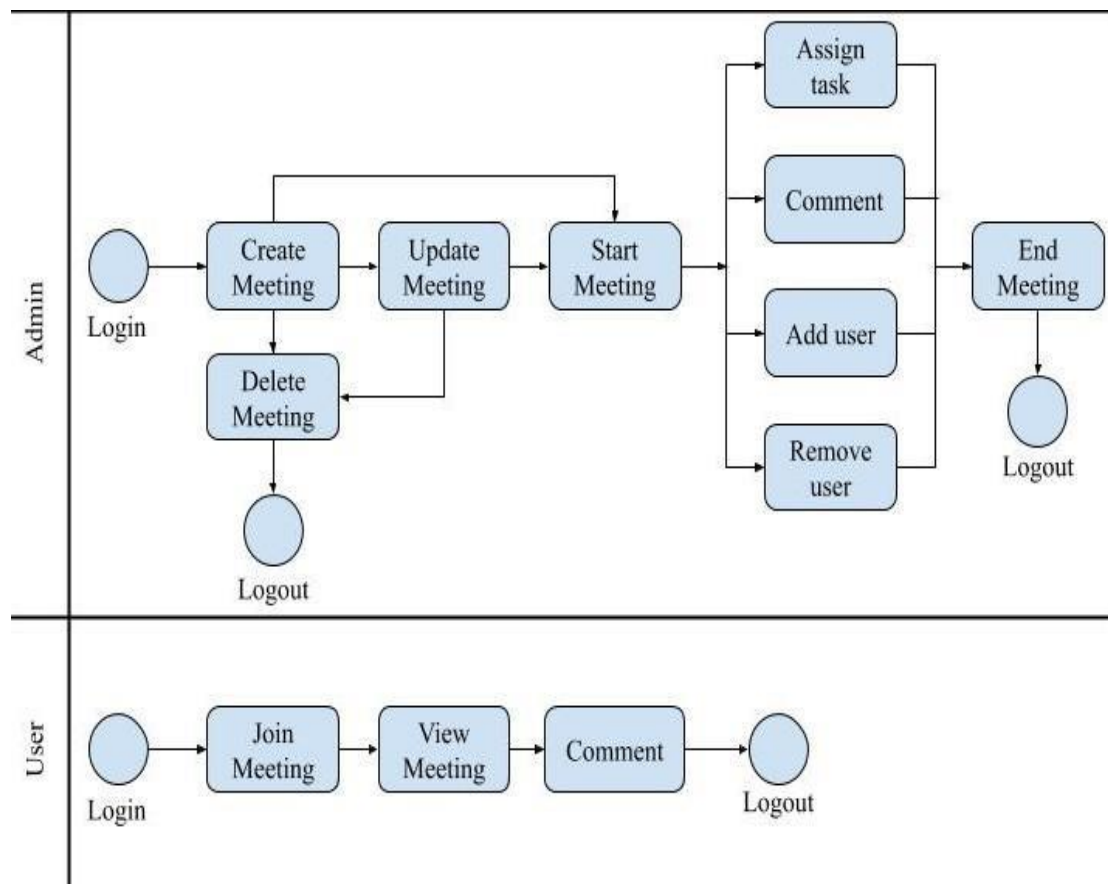


Figure 3.1: Business Process Modeling

In figure 3.1, the Business Process Model shows that there are two types of user. One is admin and the another is user. Admin and user must need to log in at first. Without log in, no page will be open. If someone will try to open a page by a URL without logged in into our web app, it will redirect to the log in page. The maximum work will be done by the admin here. And user can only join, view and make comments in the meeting.

3.2 Requirement Collection and Analysis

Digital Meeting Portal can streamline the whole meeting process.

3.2.1 Pre-Meeting Preparation

- Schedule meetings
- Create agenda
- Set access levels
- Invite Participants

3.2.2 During Meeting Process

- Start remote meetings
- Real-time annotation sharing
- Live document presentation
- Live discussion

3.2.3 Post-Meeting Document Distribution

- Admins can export meeting minutes and Digital Meeting Portal also provides an action tracking system to track the action items raised during meetings.

3.3 Use Case Modeling and Description

By drawing this diagram, we showed the activities of a client. We implemented use case diagram because of it can find out what are the framework requirements are and utilize them.

3.3.1 Use Case of Admin

The use case diagram of an admin is given below:

Table 3.1: Use Case of Admin

Use case name	Use Case of Admin
Actor	Admin
Description	Admin will handle all the work procedures.
Pre-conditions	Must have an ID and password.
Standard flow	<ol style="list-style-type: none">1. Have to log in first.2. Can view or edit own profile.

	<ol style="list-style-type: none"> 3. Create meeting by adding date and time, meeting details, agenda files and invite users. 4. After creating a meeting, it can be updated or deleted. 5. After starting the meeting, admin can view meeting agenda and meeting details, assign tasks to the users with a deadline, comment, add or remove a user and end the meeting. 6. Admin can view all the user lists and info also.
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Table 3.1 shows how the Digital Meeting Portal web application will be handle by an admin.

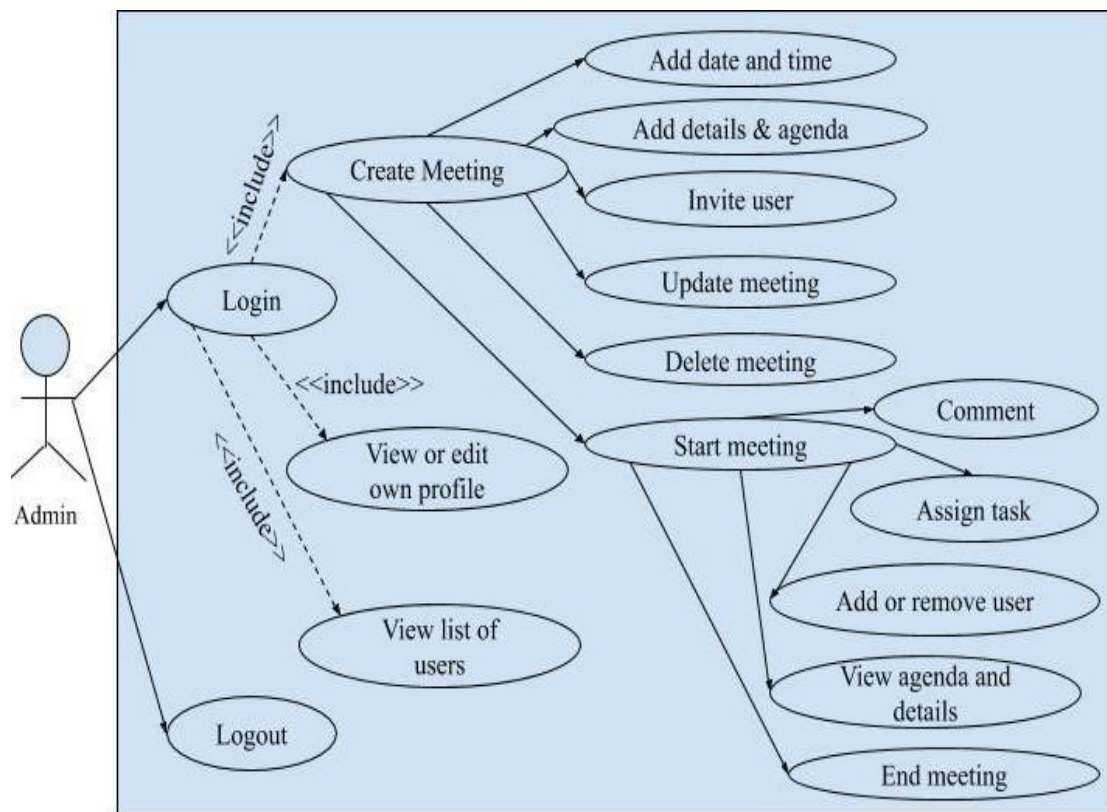


Figure 3.2: Use case of Admin

In figure 3.2, the workflow of an admin is shown here.

3.3.2 Use Case of User

The use case diagram of a user is given below:

Table 3.2: Use Case of User

Use case name	Use Case of User
Actor	User
Description	User only have access to view the joining meeting.
Pre-conditions	Must have an ID and password.
Standard flow	<ol style="list-style-type: none"> 1. Have to log in first. 2. Can view or edit own profile. 3. User can only join meeting with the meeting code which will provide by an admin through mail. 4. When the meeting started, user can view the meeting agenda and meeting details, comment and view the assigned task given by the admin.

Table 3. shows how the Digital Meeting Portal web application will be handle by a user.

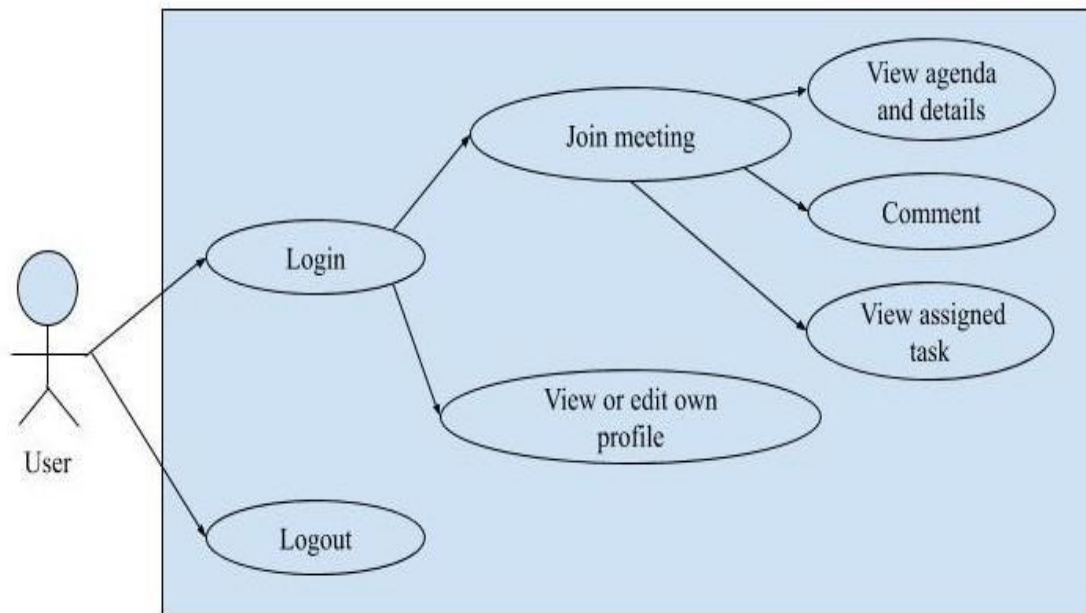


Figure 3.3: Use case of User

In figure 3.3, the workflow of a user is shown here.

3.4 Logical Data Model

Logical data model portrays the information however much detail as could reasonably be expected. The Entity Relationship diagram and the Logical Schema are the logical data model which includes attributes, entity, tables and relationships. The Entity Relationship diagram and the Logical Schema are given below:

3.4.1 Entity Relationship Diagram

The Entity Relationship diagram is given below:

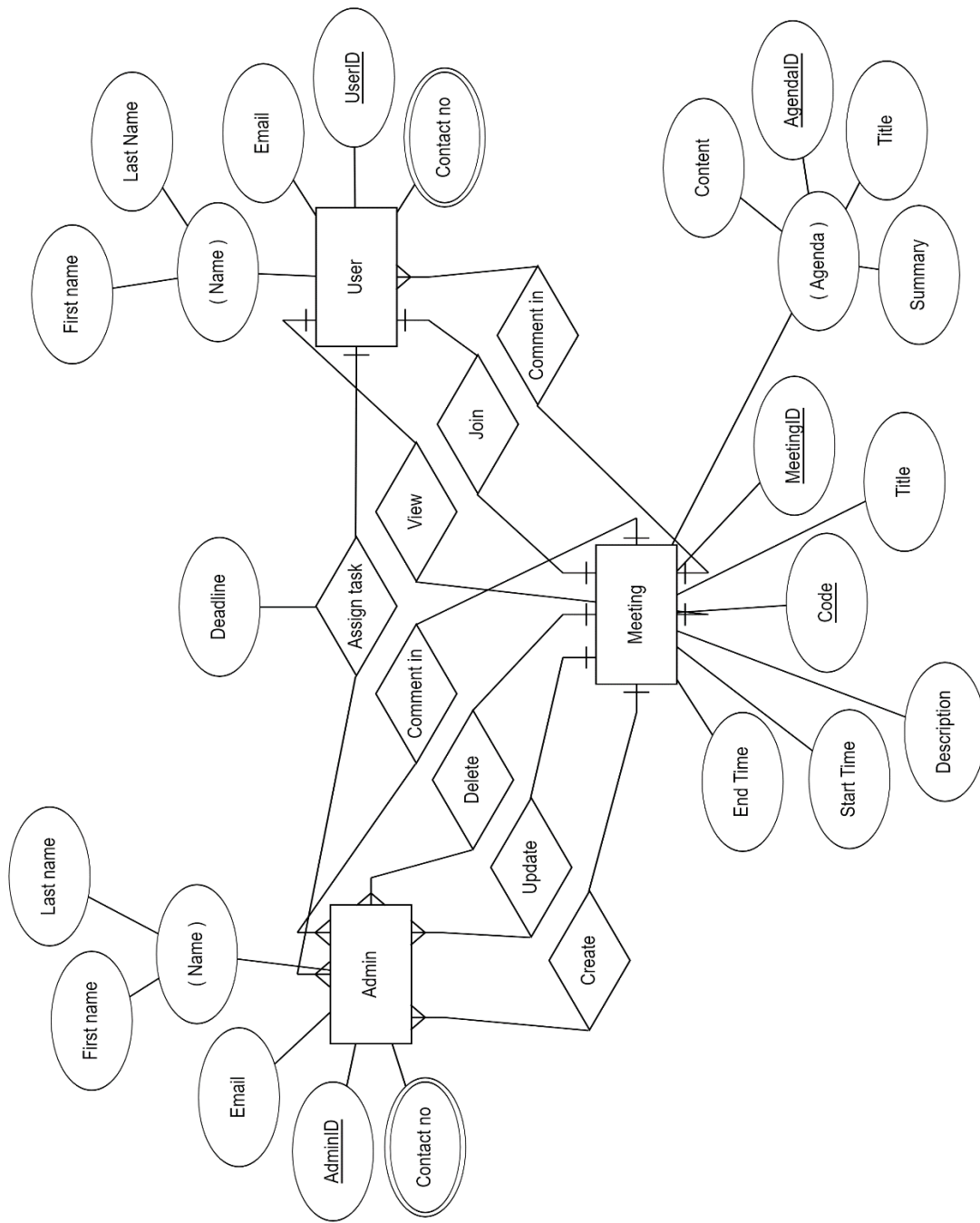


Figure 3.4: Entity Relationship Diagram

In figure 3.4, this diagram represents the relation between admin, user and meeting.

3.4.2 Logical Schema

The Logical Schema is given below:

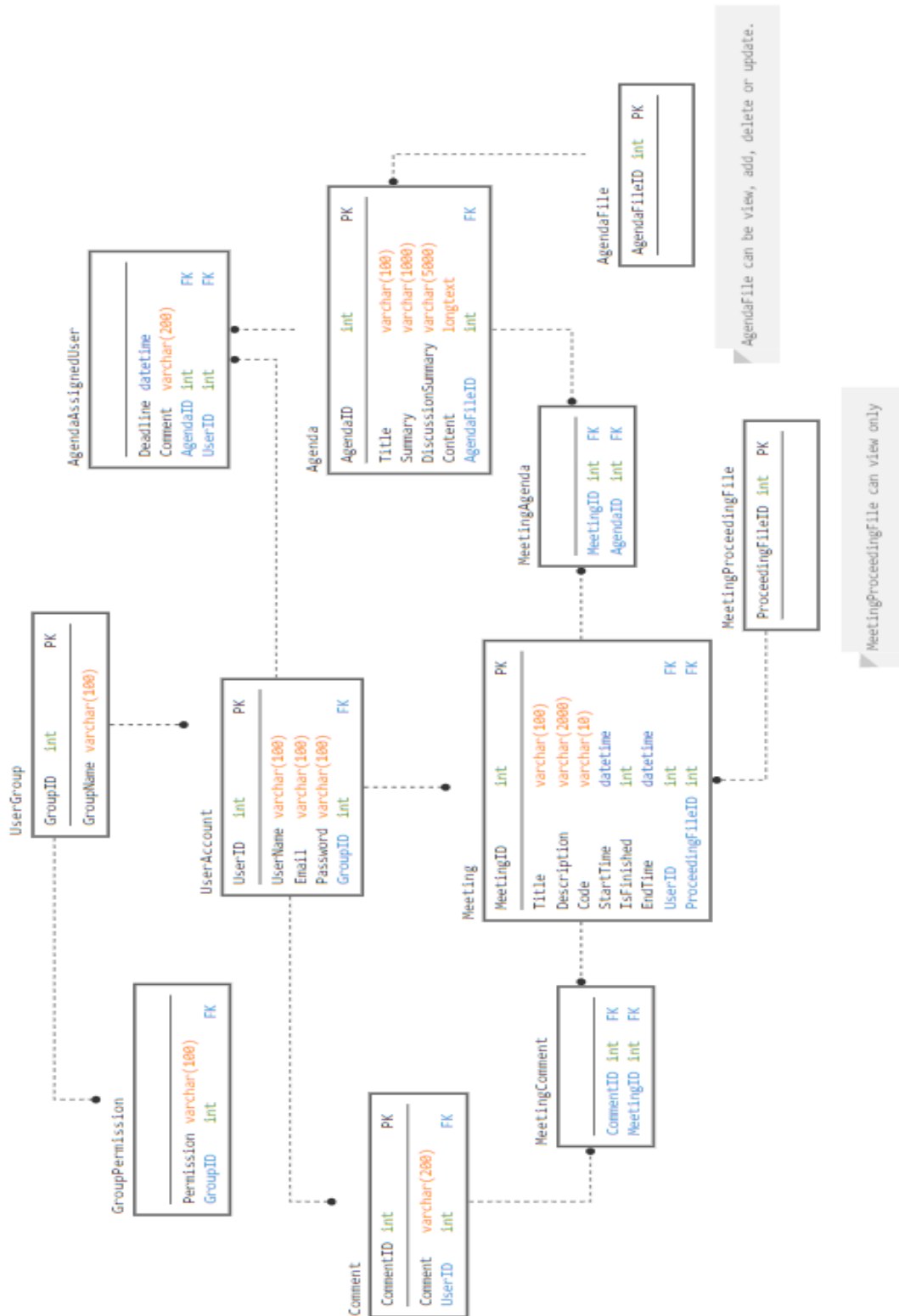


Figure 3.5: Logical Schema

Figure 3.5 contains the dataset of our web app which can give a small idea about our Digital Meeting Portal application.

3.5 Design Requirements

Initially we were fixed the following requirements to implement in our project.

1. User friendly site.
2. Easy way to create meeting.
3. Easy way to start and end meeting.
4. Easy way to assign tasks.
5. Pleasant dashboard.
6. Easy to use in live meeting.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

Basic requirement of digital meeting front end design contains eight webpage which are designed initially by sketching and we implemented them later where we used the bootstrap 4 framework and then developed implementing react framework.

4.1.1 HTML

To implement user interface of our app we written web pages using html to build the basic structure of our app as html is the skeleton of any web app. We optimized the html codes in a way that is completely readable to anyone.

4.1.2 CSS

We implemented CSS to transform our web pages into dynamic web pages. Which described the presentation of an html codes and the documents in a page including colors, layout and fonts. Which allows presentation in different types of devices.

4.1.3 Bootstrap

Bootstrap is an open source trendiest, responsive and smart front-end framework as its mobile first, prevailing. It developed along with html, SaaS and JavaScript and easy to implement as such we used it in our project which made our project responsive and developed the speed of our system. The other advantages it provides us the capability of utilize 12-column grid and customizable [3].

4.1.4 JavaScript

JavaScript allows to create highly responsive user interfaces which lets dynamic functionality as we don't need to wait for the server to react to show another task. Besides containing better functionality and libraries it made our task easy to implement.

4.1.5 React

ReactJS uses a new way of rendering web pages implementing them highly dynamic and responsive to user input. As it's an open source JavaScript library which built by Facebook so it changes the way Facebook approaches development. As our app is a single page application and we implemented rest api so react used here to make them perfect [4].

4.2 Back-end Design

Backend development is an aptitude that powers the web. However, it does it unobtrusively, without flourish — allowing people to browse their favorite sites without thinking pretty much all the work put in by the backend developer or group.

4.2.1 NODE.JS

We implemented Node.JS to make our app a real time web app. AS Node.JS uses v8 engine which compile js into native machine code which made our app very fast and increased productivity. Besides it energizes imparting to nearness of the npm which let us refresh, share and reuse code. Another important thing is we wrote js for server and client which made easy to send data between the server and the client [5][8].

4.2.2 PostgreSQL

PostgreSQL does have everything mysql has in addition to it supports many features such as JSON support which supported natively and cleanly. These features let us use this database [6].

4.2.3 Express.js

We chose Express.js because it provides easy dead routing and support for Connect middleware, allowing many extensions and useful features. Besides, it's the most common node js web app feature.

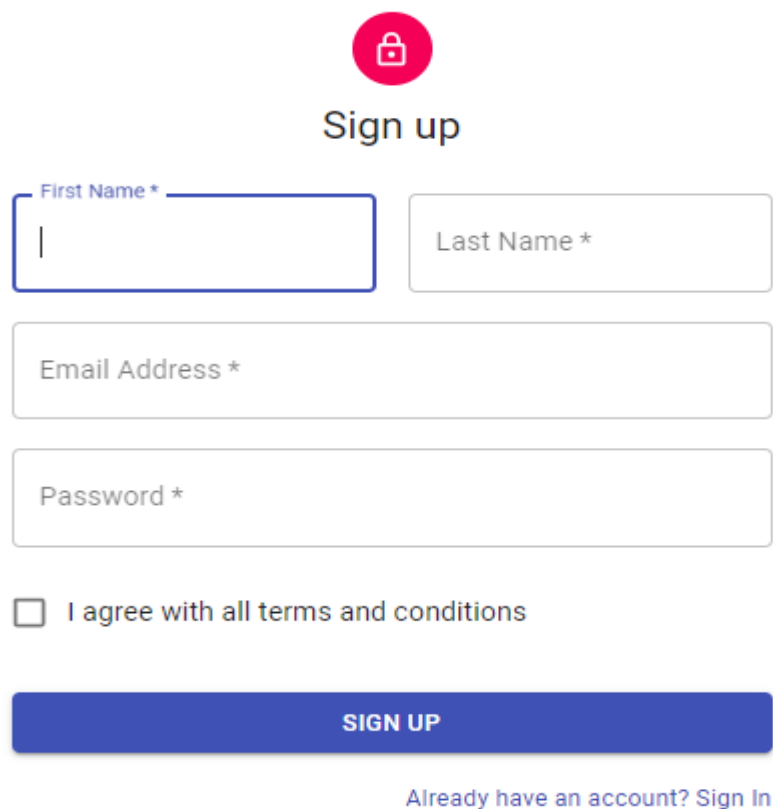
4.2.4 Socket.IO

As one of our pre requisite was to implement a real time chat system when the meeting goes live. Socket.IO is needed to implement this system. It is a networking library of js which runs server-side on Node.js [7].

4.3 Interaction Design and UX

User Interface (UI) design is the method of making interfaces in programming or modernized gadgets with an attention on looks or style. UI design usually refers to graphical user interfaces. It is the most significant part for any site for guaranteeing better client experience.

4.3.1 Sign Up Page



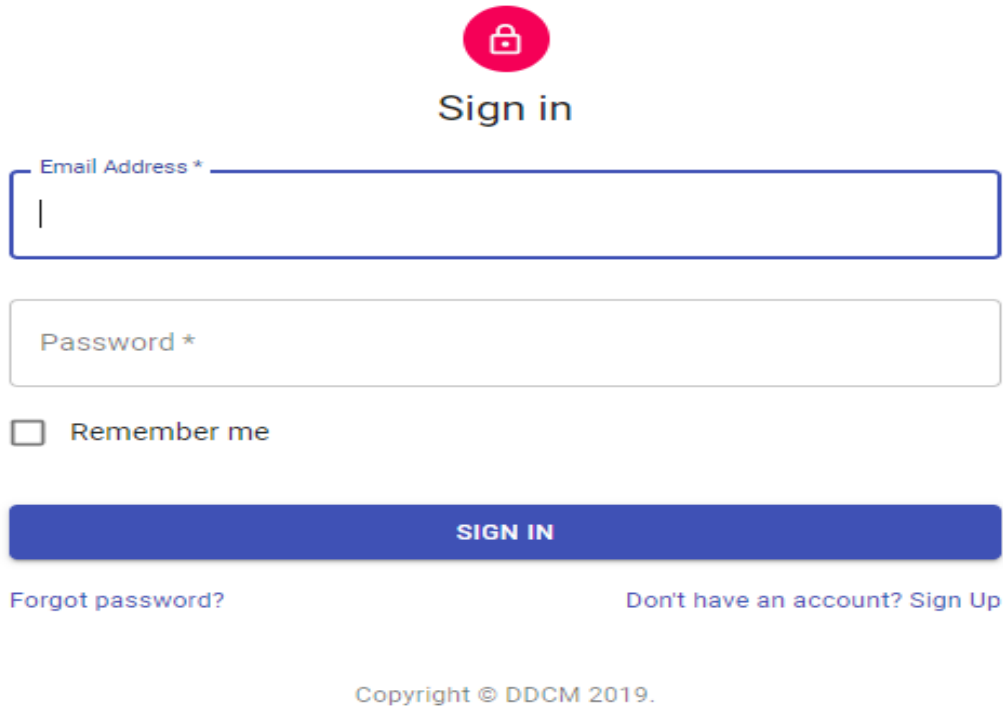
The image shows a sign-up page layout. At the top center is a red circular icon with a white padlock. Below it is the text "Sign up". The form consists of four input fields: "First Name *" (with a blue border and a vertical cursor), "Last Name *", "Email Address *", and "Password *". Below these fields is a checkbox labeled "I agree with all terms and conditions". At the bottom is a blue button with the text "SIGN UP" in white. Below the button is a link that says "Already have an account? Sign In".

Copyright © DDCM 2019.

Figure 4.1: Sign Up Page

In figure 4.1, it shows the sign-up page. A user needs to give some information's like first name, last name, email, password and a tick mark on the agreement of terms and conditions.

4.3.2 Sign in Page

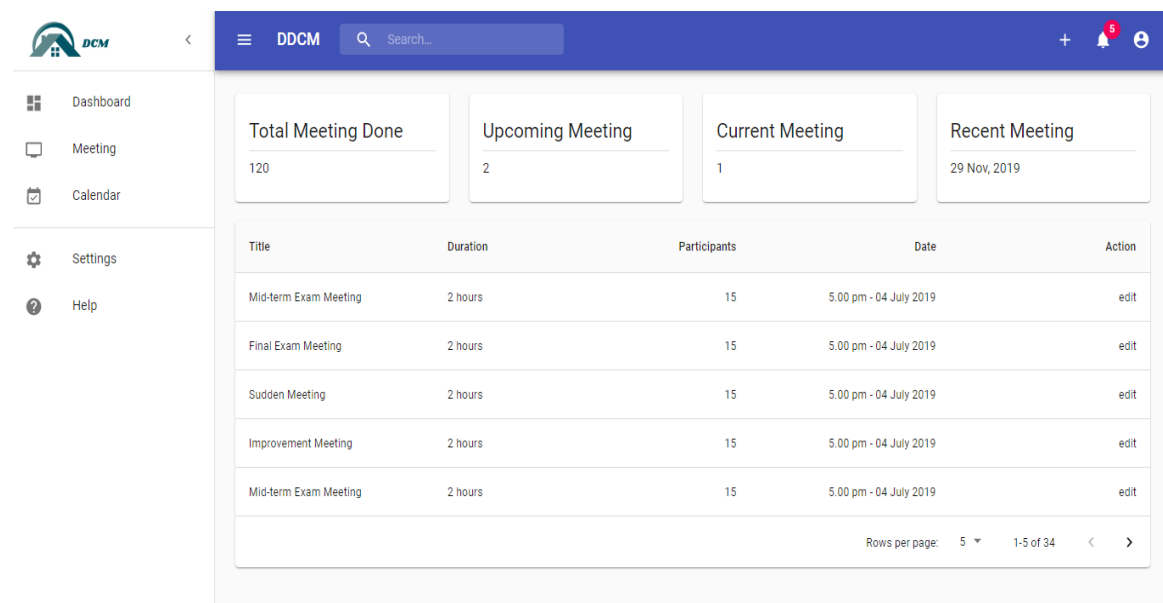


The sign-in page features a central red circular icon with a white padlock, positioned above the text "Sign in". Below this, there is a form with three main sections: an "Email Address *" input field with a blue border, a "Password *" input field with a grey border, and a "Remember me" checkbox. A prominent blue "SIGN IN" button is located below the password field. At the bottom of the form, there are two links: "Forgot password?" on the left and "Don't have an account? Sign Up" on the right. The footer contains the text "Copyright © DDCM 2019."

Figure 4.2: Sign in Page

In figure 4.2, it shows the sign-in page. A user needs to give email, password and a tick mark on the remember me option.

4.3.3 Dashboard Page



The dashboard page has a dark blue header with the DDCM logo, a search bar, and notification icons. A left sidebar contains navigation links for Dashboard, Meeting, Calendar, Settings, and Help. The main content area displays four summary cards: "Total Meeting Done" (120), "Upcoming Meeting" (2), "Current Meeting" (1), and "Recent Meeting" (29 Nov, 2019). Below these is a table of meeting records.

Title	Duration	Participants	Date	Action
Mid-term Exam Meeting	2 hours	15	5.00 pm - 04 July 2019	edit
Final Exam Meeting	2 hours	15	5.00 pm - 04 July 2019	edit
Sudden Meeting	2 hours	15	5.00 pm - 04 July 2019	edit
Improvement Meeting	2 hours	15	5.00 pm - 04 July 2019	edit
Mid-term Exam Meeting	2 hours	15	5.00 pm - 04 July 2019	edit

At the bottom of the table, there is a pagination control showing "Rows per page: 5" and "1-5 of 34".

Figure 4.3: Dashboard Page

In figure 4.3, in dashboard page all the meetings will be shown.

4.3.4 Create Meeting Page

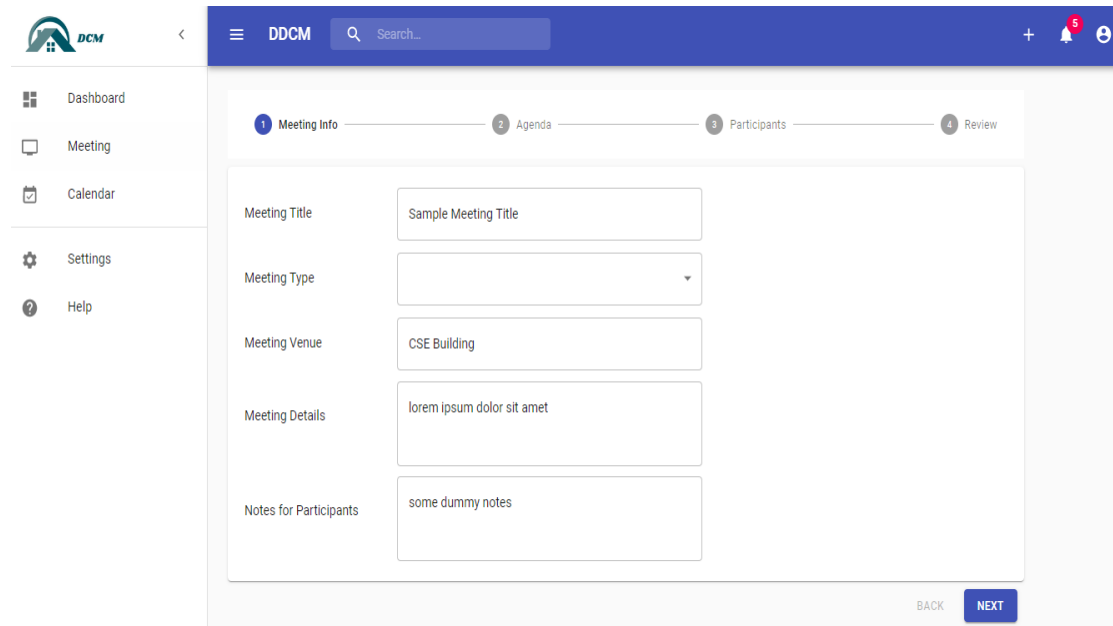


Figure 4.4: Create Meeting Page

In figure 4.4, to create a meeting, a user needs to give meeting title, type, venue, details, note for participants, agendas and participants.

4.3.5 All Meeting Page

Title	Duration	Participants	Date	
Mid-term Exam Meeting LIVE	2 hours	15	5.00 pm - 04 July 2019	
Final Exam Meeting LIVE	2 hours	15	5.00 pm - 04 July 2019	JOIN
Sudden Meeting	2 hours	15	5.00 pm - 04 July 2019	JOIN
Improvement Meeting	2 hours	15	5.00 pm - 04 July 2019	VIEW
Mid-term Exam Meeting LIVE	2 hours	15	5.00 pm - 04 July 2019	JOIN

Rows per page: 5 1-5 of 34

Figure 4.5: All Meeting Page

Figure 4.5 shows all the meetings in one place.

4.3.6 Live Meeting Page



Figure 4.6: Live Meeting Page

In figure 4.6, this page contains the current meeting with comment section, agenda, details, start and end meeting option etc.

4.3.7 Profile Page

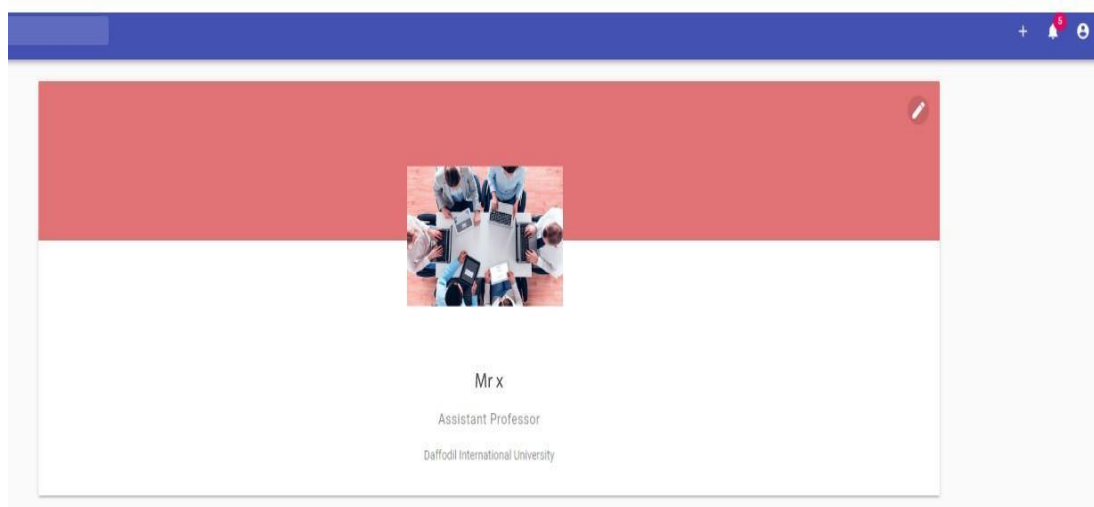


Figure 4.7: Profile Page

In figure 4.7, this is the user profile page which will show the profile picture, user name, designation and institution name.

4.4 Implementation Requirements

Following technologies used in my project.

1. HTML 5 and CSS
2. Bootstrap 4
3. JavaScript
4. React
5. Node.js
6. Express.js
7. PostgreSQL
8. Socket.IO

The following software used to implement the application:

1. Visual Studio Code
2. Git
3. pgAdmin
4. Postman

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

Tables of databases are shown below:

User Account

UserID	int	PK
UserName	varchar(45)	
Email	varchar(45)	
Password	varchar(45)	

Figure 5.1: User Table

Figure 5.1 contains the user account table which has data's like user ID, user name, email and password.

Meeting

MeetingID	int	PK
Title	varchar(100)	
Description	varchar(2000)	
MeetingCode	varchar(10)	
StartTime	datetime	
EndTime	datetime	

Figure 5.2: Meeting Table

Figure 5.2 contains the meeting table which has data's like meeting ID, title, description, meeting code, start time and end time.

Agenda

AgendaID	int	PK
Title	varchar(100)	
Summary	varchar(500)	
DiscussionSummary	varchar(1000)	
Content	longtext	

Figure 5.3: Agenda Table

Figure 5.3 contains the agenda table which has data's like agenda ID, title, summary, discussion summary and content.

AgendaFile

AgendaFileID	int	PK
<hr/>		

Figure 5.4: Agenda File Table

Figure 5.4 contains the agenda file table which has only an agenda file ID.

AgendaAssignedUser

<hr/>		
Deadline	datetime	
Comment	varchar(200)	

Figure 5.5: Agenda Assigned User Table

Figure 5.5 contains the agenda assigned user table which has data's like deadline and comment.

UserGroup

GroupID	int	PK
<hr/>		
GroupName	varchar(100)	

Figure 5.6: User Group Table

In Figure 5.6 contains the user group table which has data's like group ID and group name.

GroupPermission

<hr/>		
Permission	varchar(100)	

Figure 5.7: Group Permission Table

Figure 5.7 contains the group permission table which has only permission.

Comment

CommentID	int	PK
<hr/>		
Comment	varchar(200)	

Figure 5.8: Comment Table Figure

Figure 5.8 contains the comment table which has data's like comment ID and comment.

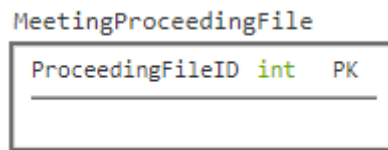


Figure 5.9: Meeting Proceeding File Table

Figure 5.3 contains the meeting proceeding file table which has only proceeding file ID.

5.2 Implementation of Front-end Design

Our initial goal was to make a paperless department meeting environment. We designed the whole system according to the department's needs. We have a login and sign up page. Without login, no one can enter our meeting. After login, users can see the dashboard, meeting, calendar, settings and some other pages. In the dashboard, we show the count of past meetings, upcoming meetings, and recent meeting dates and also show running meetings. A calendar page plugged in where people can see their important events. On the help page, we provided a tutorial on how to access our department meeting. In the setting page, page users can change their settings according to their wishes. The meeting page contains three types of meetings like the current meeting, past meeting, and the upcoming meeting. Then we have a live meeting page where user can see the paper in pdf format and also have a chat box.

5.3 Implementation of Interactions

The main goal was to shift to electronic meeting system where no paper is used and doesn't need to face hardness. Two types of users can access. One is an admin who can control the whole system and another one is general users. Admin can create meetings and also, he can edit and delete the meeting that he created. A meeting code will be generated automatically and by using that meeting code general users can join the meeting. Without the meeting code, general users can't join any kind of meeting. After joining the meeting, the main focus is the live meetings where users interact with each other on the laptop by chatting and watching paper in pdf format. Admin can assign specific tasks to the users. And users get notified of his task.

5.4 Testing Implementation

We run our project through some testing procedure to check if it works properly or not. Several tests are presented below to indicate the absolute readiness of the application to function.

Table 5.1: Testing Implementation

No	Tested Case	Tested Input	Expected Outcome	Actual Outcome	Result
1	Sign up	Provide first-name, last-name, email address, password, mark on t&c and sign up.	Successfully Registered.	Successfully Registered.	Passed
2	Sign in	Provide an email address, password and sign in.	Dashboard comes up if user is registered.	Dashboard comes up if user is registered.	Passed
3	Create meeting page	Click on the (+) button then click on the create meeting option.	Go to the create meeting page.	Go to the create meeting page.	Passed
4	Meeting info	Enter meeting title, type, venue, details, note for participants	Meeting info saved and go to agenda page.	Meeting info saved and go to agenda page.	Passed

		and click on the next button.			
5	Agenda	Enter title, summary, order, click on upload file then click on the next button.	Agenda saved and go to participants page.	Agenda saved and go to participants page.	Passed
6	Participants	Choose participants, click on the invite button then click on the next button.	Participants invited and go to review page.	Participants invited and go to review page.	Passed
7	Review	View all previous saved info and click on the save button	Meeting created successfully.	Meeting created successfully.	Passed
8	Join meeting	Click on the (+) button then choose the join meeting option, enter the joining code and click on the join button.	Meeting joined successfully.	Meeting joined successfully.	Passed

In table 5.1, we present the tests which was taken by us and all the tests passed successfully.

5.5 Test Results and Reports

Some test results and reports are given below:

5.5.1 Functionality Testing

We run this test to verify our product is as fulfil the specifications and it fulfil the basic requirements as still a few features need to add.

5.5.2 Usability testing

Usability test is taken by the real user. Some usability tests are given below:

5.5.2.1 Test the site Navigation

Table 5.2: Test the site Navigation

Test Case	Test Data	Result
Menus	Check in different device	Easily visible and consistent
Buttons	Check in different device	Easily visible and consistent
Links	Check in different device	Consistent

Table 5.2 shows that all tests passed successfully.

5.5.2.2 Test the Content

Table 5.3: Test the Content

Test Case	Test Data	Output
Content	Readable content without errors	Passed
Images	contain an "alt" text	Passed

Table 5.3 shows that all tests passed successfully.

5.5.3 Interface Testing

In this section we tested Database Server, Web Server and Application.

5.5.3.1 Application

Table 5.4: Application

Test Case	Test Data	Output
From Client Side	Test request correctly sent to the server	Passed
To Client Side	The data on the client-side is displayed accurately	Passed
Error in Application	Should be shown to the administrator only	Passed
Error in Application	Should not be shown to the administrator only	Failed

Table 5.4 shows that all tests passed successfully instead of one test.

5.5.3.2 Database Server

Queries sent to the database resulting in expected results, but creating error in some cases.

Table 5.5: Database Server

Test Case	Test Data	Output
Queries	Sent to the server with the expected output	Passed
Queries	Error free	Failed

Table 5.5 shows that database server is not error free.

5.5.4 Database Testing

Table 5.6: Database Testing

Test Case	Test Data	Output
-----------	-----------	--------

Data Integrity	Check create database, Check update database, Check delete database.	Passed
Response time	Checking response time if it is good	Partially Passed
Data	Data is retrieved properly.	Passed
Error	Error free	Failed

Table 5.6 contains some tests partially passed or failed.

5.5.5 Crowd Testing

Table 5.7: Crowd Testing

Test Case	Test Data	Output
Application	Response times at different connection speeds	Partially Passed
Crash occurrence	Does Not occur Due to peak load	Failed

Table 5.2 shows that all tests not passed successfully.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

Digital Meeting empowers the meeting to concentrate on governance, not just management, with the right resources. This formalizes meetings saves hours to prepare agendas and fulfill deliveries throughout a paperless world. It allows feasibly collaborate with annotations and summaries of meetings. Anywhere, on any device. As we tried to make meeting more effective and creating paperless environment using our Digital Meeting app which is a platform for uninterrupted communication without considering any sort of disruption. In the meantime, our system is also cost-effective, convenient and time-saving modes of communication.

6.2 Scope for Further Development

As Digital Meeting app in its initial phase it does have lots of area to develop. Now it does create & host meeting only which is for only specific kind of meeting which are not complex. It can be developed more adding task scheduler and document managing system. In the meantime, enhancing collaboration and productivity by enabling participants and meeting organizers to conduct meetings and discussions anytime and anywhere is one of the major further developments scope. Another scope is facilitating important meeting actions such as voting, surveys and track and manage activities through audit logs and fine-grained access control.

APPENDIX

APPENDIX A: PROJECT REFLECTION

Implementing this project, we introduced with a number of new and updated technology and system which left us with excellent experience and grown our thirst to learn more technology and work with more web-based work. In brief this whole journey was fantastic and helping and working altogether made us complete our project this much.

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