

# Digital Walk-Around Project - Fat 6 Requirements

Project Manager: Aidan Clarke Scott

Team Members: John Chapman, Willem van Doorn, Christopher Cliff, Matt Wilson, Sasha Maximovitch, Shane Labelle

March 30th, 2022  
Version 1.1

## Sponsor Sign Off

<b>Name:</b> Branden K. Siegle	<b>Signature:</b>	<b>Date:</b>
<b>Remarks:</b>		
<b>Name:</b> Clifford Lee	<b>Signature:</b>	<b>Date:</b>
<b>Remarks:</b>		

## Revision History

Date	Version	Description
02/02/2022	1.0	Creation of Document
03/30/2022	1.1	Removed feature to view employee directory, removed Outlook references

# 1 Project Description

## 1.1 Problem Statement

---

HSBC's workforce is 80% remote, which poses new challenges for connecting coworkers. With teams constantly in Zoom video meetings it can be difficult to know where individual team members are. HSBC needs a new solution for managing Zoom meetings to increase productivity online and within the Zoom platform.

## 1.2 Plan

---

This project will help streamline the online collaboration process by mimicking the office environment, bringing more natural office-like interactions into the virtual space. Our plan is to build a dashboard that allows teams to easily manage and show current and upcoming Zoom meetings of team members or colleagues within the organization.

# 2 Business CADs

## 2.1 Constraints

---

### AWS

Since we will be developing the platform as an AWS serverless application, the following performance and usage constraints will be governed by the AWS service level that is selected:

- Storage size
- Memory allocation
- Invocations per second
- API calls per second

### Zoom

The application will interact with Zoom via the Zoom API. Should there be changes to this API, development work will be required in order to ensure a functioning product.

## 2.2 Assumptions

Assumption	Description
1	HSBC will continue using Zoom as their primary video conferencing platform.
2	HSBC will continue using Microsoft Outlook as their primary email system.
3	AWS will be the cloud service of choice for the duration of the project
4	HSBC will maintain a user credentials format that conforms with the database design of the application unless otherwise stated

## 2.3 Dependencies

### AWS

*Risk:* Catastrophic

*Description:* Since we will be building the platform on AWS we are reliant on the sustained operation of the platform. Should the platform go down we will experience a full system failure.

*Solutions:*

- 1) Wait until AWS operation resumes (Effort = 0)
- 2) Port system to alternative platform if outage is permanent (Effort = 10)

### Zoom

*Risk:* High

*Description:* Since the application relies on interfacing with the Zoom application via an API, should the API cease to function, the application would no longer be able to join zoom meetings, fetch recordings, or fetch a list of current participants.

*Solutions:*

- 1) A notification would be presented to the user via UI in order to alert them that Zoom functionality is currently not available. (Effort = 0)

## **3 Business Impacts**

### **3.1 Impacted Groups/Individuals**

---

The group that will be primarily impacted by implementing this application will be the actual HSBC employees themselves. More specifically, general HSBC employees will now have the ability to view a significant portion of their meeting and appointment information all in one location, though they will have to be acquainted with the new system. System administrators at HSBC will be impacted, as they will have to ensure the new application complies with HSBC's internal protocols, and they will be required to integrate the application with their existing Zoom organization and SSO systems. Another majorly impacted subset of HSBC employees will be office administration and HR members, as they will now have the ability to easily plan and organize more meaningful and interactive office-wide activities that more closely resemble what they would be able to accomplish in-person.

### **3.2 Impacted Systems**

---

HSBC's Single-Sign-On (SSO) system, Zoom organization accounts will all be impacted to varying degrees. The company-wide SSO authentication scheme will need to be extended to allow employees to log in to the app securely where they will be able to view sensitive internal information. The HSBC Zoom organization will be most impacted, as the app will have complete control over several Zoom processes, including creating meetings, having users join meetings, and recording meetings.

## **4 Business Requirements**

### **4.1 Summary**

---

Once the project is completed, the product needs to allow HSBC employees to view and participate in their active Zoom meetings, create groups of people to hold meetings with, and view details about past and future meetings.

### **4.2 In Scope**

---

Primarily, the project is a web application that allows HSBC employees to view and join their current meetings and observe who is present. The application will facilitate the simple creation of groups from current HSBC employees, which can be used to hold meetings immediately or in the future. It will also allow employees to view all past, present, and future meetings on a calendar to see information like the purpose and participants of the meeting, as well as watch past recorded meetings. The goal is to organize and simplify the online meeting experience to allow for easy access and transparency and reduce friction when coordinating future or viewing past meetings.

### 4.3 Out of Scope

The application will not be integrated with HSBC's active directory database or internal systems so the application will not be usable upon handoff without connecting the active HSBC database. The application will also not work with existing SSO (Single Sign On) for HSBC employee user accounts as we don't have access to HSBC's internal systems. Instead, we will create our own temporary SSO system for the app that will need to be replaced to work with the actual HSBC SSO information.

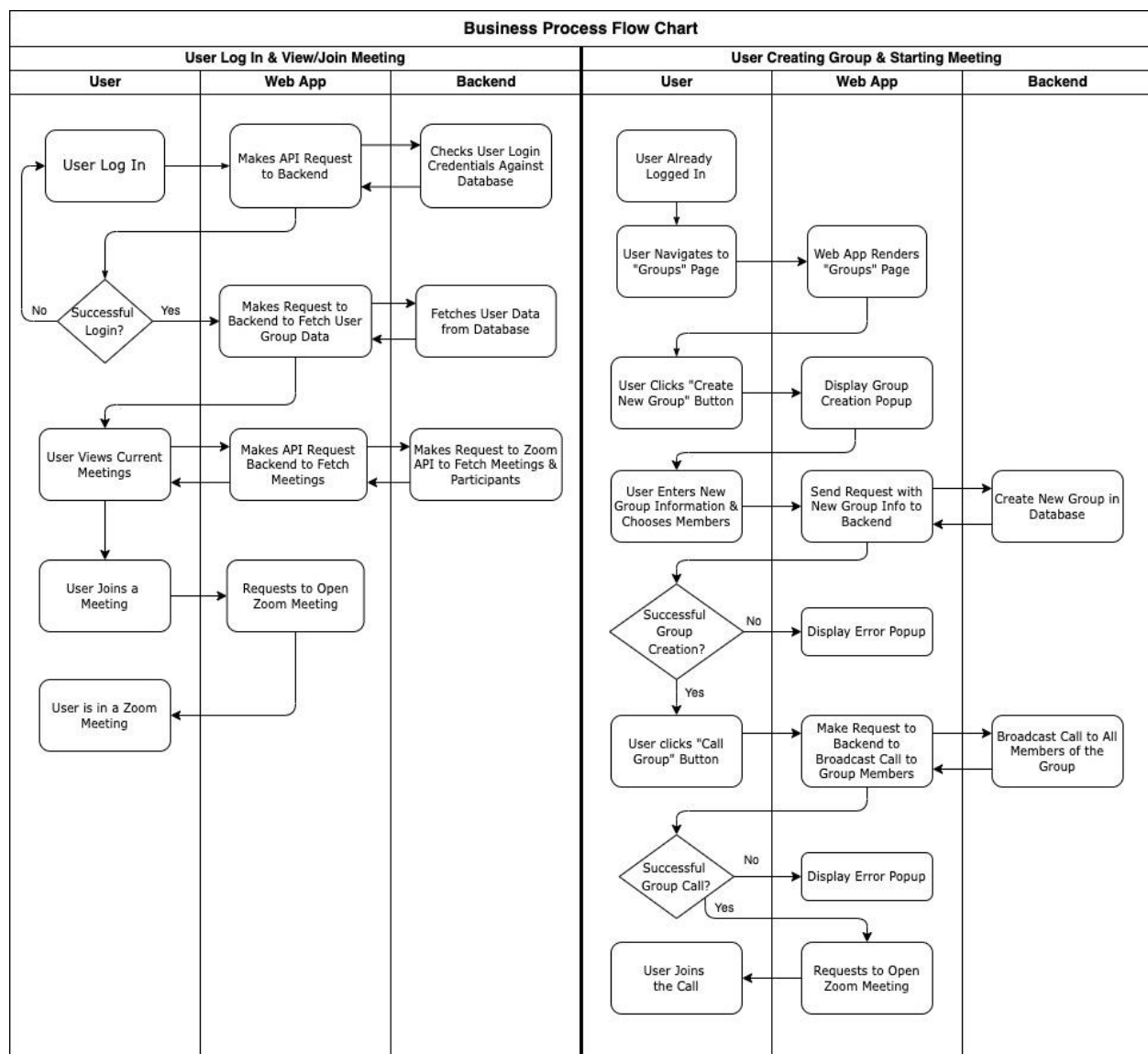
### 4.4 Requirement Traceability Matrix

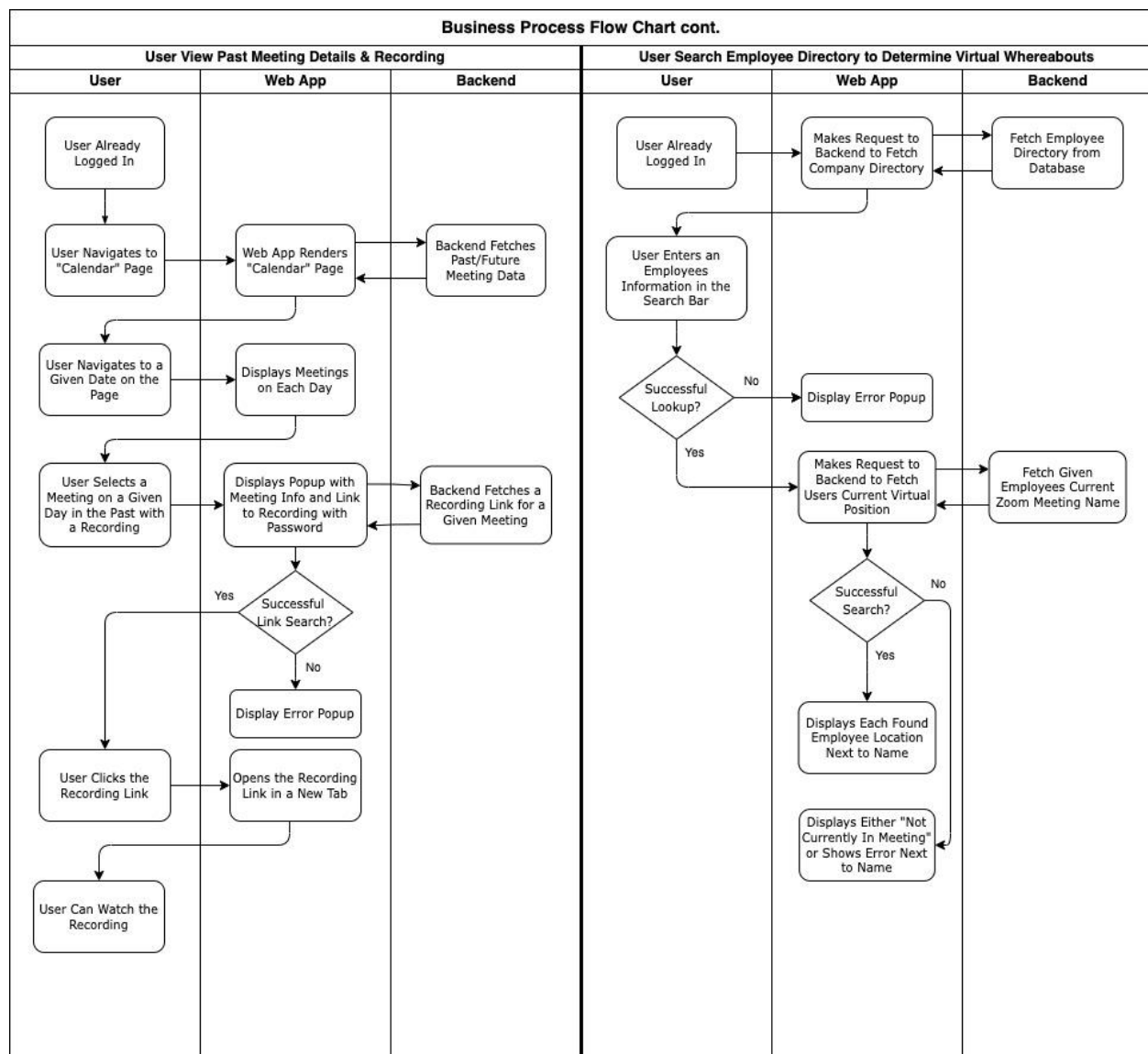
Req. No.	Reference	Requirements Description	Type	Priority	MVP (Y/N)	Related Test Case	Test Status	Comments
1.0	Use Case 1	Log in	Functional	1	Y	TBD	TBD	
1.1	Use Case 2.1	View current virtual meetings and their participants	Functional	1	Y	TBD	TBD	"Virtual office" page
1.2	Use Case 2.2	Search for coworkers and team members to find their virtual whereabouts	Functional	1	Y	TBD	TBD	Based on organization database
1.3	Use Case 3	Creating groups from users in directory	Functional	1	Y	TBD	TBD	Groups show their members whereabouts
1.4	Use Case 4	One-click group meeting assembly	Functional	1	Y	TBD	TBD	"Call all on list" feature
1.5	Use Case 5	Join meetings when they begin	Functional	1	Y	TBD	TBD	Popup in web app
1.6	Use Case 6	View meetings past and future in calendar form	Functional	1	Y	TBD	TBD	
1.7	NA	Support UI on Google Chrome	Non Functional	1	Y	TBD	TBD	
2.0	Use Case 7	Schedule future meetings	Functional	2	N	TBD	TBD	
3.0	NA	Support for at least 20 concurrent users	Non Functional	3	N	TBD	TBD	
4.0	NA	Response times for an individual search be < 3 seconds	Non Functional	3	N	TBD	TBD	
5.0	Use Case 8	Watch recordings of past meetings	Functional	2	N	TBD	TBD	
6.0	NA	Scale design capacity to accommodate up to zoom maximum	Non Functional	4	N	TBD	TBD	

## 4.5 Minimum Viable Product

Our minimum viable product will be a web application that runs in Google Chrome, consisting of a dashboard that provides various functionality for managing and viewing Zoom Meetings. Our MVP will allow users to connect to their organization through SSO and authenticate with Zoom. Once connected they can view the virtual location of their co-workers (what Zoom meeting they are currently in) as well as past and future meetings within a calendar view. Users can create groups of any of their co-workers to better coordinate teams within their organization, and then call meetings with all users on the list. The final component of our MVP includes a prompt within the application to notify users when meetings are occurring and provide them with a link to join the meeting.

## 4.6 Business Process Flow Chart





## 4.7 Non Functional Requirements

### Performance/capacity needs:

Our application aims to support concurrent usage of at least 20 users. This is crucial as we need to support a large group of people who will all use this app to organize, create and join their meetings. It should also allow for large, company wide meetings to be created and established with up to the Zoom maximum capacity if needed, so that our app does not provide any unnecessary limitations. Additionally, when conducting searches either through the calendar, for past/future meetings, or for users, it should ideally take < 3 seconds.

### Design needs:

The design of our application should be able to fit in various different common browsers, but should primarily be used on Google Chrome.

## Backup needs:

Data and information regarding groups, previous meetings, and users should all be stored securely, and be backed up so our app encounters any type of issue or error, it can be restored to a recently saved state.

## Security needs:

Backend logic & database should be secure, and not accessible nor modifiable beyond what the app is designed to allow users to modify.

# 5 References

- UBC CPSC 319 2021W2 Class Slides
- <https://www.paluszek.com/wp/wp-content/uploads/2018/06/CADs-Constraints-Assumptions-Risk-Requirements-Dependencies.pdf>
- <https://www.pmi.org/learning/library/clear-project-requirements-joint-application-design-6928>
- <https://tallyfy.com/process-flowchart/>

# 6 Appendix

## 6.1 Use Cases

---

Use Case 1: Log In	
<b>Description</b>	A user opens the application and is presented with a log in screen, where they can use their registered information in our SSO to log in to the application.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"><li>• The user has access to view our application</li><li>• The user is a registered member of the organization that is able to create an SSO account, or they have an SSO account already registered.</li></ul>
<b>Postconditions</b>	<ul style="list-style-type: none"><li>• The user is now logged in, and is taken to the home screen of our application, where they can see all of their personal settings and groups, which have been previously tied to their SSO account.</li></ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"><li>1. Employee clicks "Log in" button</li><li>2. Employee enters their SSO user name and password</li><li>3. Employee is redirected to the home page of the app</li><li>4. Personal user settings and groups can now be seen and altered, with this information being linked to the Employee's SSO account</li></ol>
<b>Alternates Step 1</b>	At Step (1.) of Main Scenario if: The employee is not registered for an SSO account <ul style="list-style-type: none"><li>• Then an error appears telling the user that no account is registered with their information, and they are directed to an alternate page where they can register for an SSO account</li></ul>
<b>Alternates Step 2</b>	At Step (2.) of Main Scenario if: The employee has entered incorrect credentials <ul style="list-style-type: none"><li>• Then an error will appear telling the user that their password is incorrect, and prompting them to try again, or reset their password following a procedure that will be linked to them</li></ul>



Use Case 2.1: View current virtual meetings and their participants	
<b>Description</b>	A user is able to view the meetings they are invited to in a dashboard, as well as all of the current participants.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• The user is registered in our SSO</li> <li>• The user is logged in to the App/Zoom</li> <li>• The user has active meetings that they are invited to</li> <li>• The user is on the front page dashboard of the app</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>• A view of all the current meetings appears on the users dashboard.</li> <li>• Each meeting has a dropdown containing the names of all the coworkers currently in the meeting.</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. The user navigates to the front page dashboard containing a list of all ongoing meetings they are invited to.</li> <li>2. The user clicks to expand a certain meeting.</li> <li>3. A dropdown appears with all the current meeting participants.</li> </ol>
<b>Alternates Step 1</b>	At Step (1.) of Main Scenario if: there are no active meetings on the dashboard. <ul style="list-style-type: none"> <li>• Then the user must request an invite to the meeting they wish to view the participants of.</li> </ul>

Use Case 2.2: Search for coworkers and team members to find their virtual whereabouts	
<b>Description</b>	A user is able to search for another individual user in the app's directory and see a link to their current Zoom whereabouts.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• The user is registered in our SSO</li> <li>• The user is logged in to the App/Zoom</li> <li>• The user used the search feature to find a certain coworker or team member</li> <li>• The coworker or team member the user is trying to find is logged into the app and Zoom</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>• The coworker or team member appears in the result of the search in fewer than three seconds.</li> <li>• The user returned from the search has a status field including the Zoom link of their current meeting.</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. The user navigates to the search field of the app.</li> <li>2. The user enters identifying information for the coworker or team member they are trying to find, such as a name or email.</li> <li>3. The located coworker is found and returned in the search.</li> <li>4. The user views the status field of the coworker to see their Zoom whereabouts.</li> </ol>
<b>Alternates Step 1</b>	At Step (3.) of Main Scenario if: there are no users returned. <ul style="list-style-type: none"> <li>• Then the user must retry the search with different parameters.</li> </ul>
<b>Alternates Step 2</b>	At Step (4.) of Main Scenario if: there is no Zoom link in the status field. <ul style="list-style-type: none"> <li>• Wait for the coworker to join a meeting or invite the coworker to a meeting.</li> </ul>

Use Case 3: Creating groups from users in directory	
<b>Description</b>	A user is able to create a new group and select members of the HSBC organization to add to the newly created group for the purposes of holding meetings.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>The user is registered in our SSO</li> <li>The user is logged in to the App/Zoom</li> <li>The user is on the "Groups" page of the web app</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>The group exists in the "Groups" page for the user who created the group</li> <li>The user is able to use the group to immediately call all members</li> <li>The user is able to use the group to schedule a future meeting with all members</li> <li>The user can add more people or remove people from the group at any point in the future</li> <li>The user can see where the members of the group currently are on the group UI</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>Employee clicks "Create Group" button while on the "Groups" page of the app</li> <li>Employee selects people to add to the new group from the list of people in the HSBC organization directory</li> <li>Employee clicks a "Done" button to indicate they are finished with their selection</li> <li>The new group is now available in the employee's "Groups" page</li> </ol>
<b>Alternates Step 1</b>	At Step (1.) of Main Scenario if: There is an error creating the new group <ul style="list-style-type: none"> <li>Then a pop-up appears alerting the user that a group could not be created</li> </ul>
<b>Alternates Step 2</b>	At Step (2.) of Main Scenario if: There is an error adding a person to the group <ul style="list-style-type: none"> <li>Then a pop-up appears alerting the user that this person could not be added</li> </ul>
<b>Alternates Step 3</b>	At Step (3.) of Main Scenario if: A group with the same name (and/or members) already exists <ul style="list-style-type: none"> <li>Then a pop-up appears alerting the user that a group by this name already exists and that the user must enter a different name</li> </ul>

Use Case 4: One-click group meeting assembly	
<b>Description</b>	A user immediately assembles a Zoom meeting with all available co-workers of a specific group through the click of a button.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>The user is registered in our SSO</li> <li>The user is logged in to the App/Zoom</li> <li>The user has created a group of other registered users</li> <li>At least one of those users is also online</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>A new Zoom Meeting is created and scheduled immediately</li> <li>All co-workers are invited to the meeting</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>Employee clicks "Call Group" button above a group of co-workers</li> <li>A new Zoom Meeting is created</li> <li>Employee and all co workers of the group are invited to the Zoom Meeting</li> <li>A modal in the UI appears with a button that links to the Zoom Meeting</li> </ol>
<b>Alternates Step 1</b>	At Step (1.) of Main Scenario if: No co-workers are online <ul style="list-style-type: none"> <li>Then a pop-up appears alerting the user that a meeting could not be created</li> </ul>
<b>Alternates Step 2</b>	At Step (2.) of Main Scenario if: There is an error creating the Zoom Meeting <ul style="list-style-type: none"> <li>Then a pop-up appears alerting the user that a meeting could not be created</li> </ul>

Use Case 5: Join meetings when they begin	
<b>Description</b>	When a meeting starts, all invited users will receive a popup in the app that allows them to join immediately.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• The user is registered in our SSO</li> <li>• The user is logged in to the App/Zoom</li> <li>• The user has been invited to a group made by another registered user</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>• The user is connected to the zoom meeting they've been invited to and clicked to join</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. A meeting is started/created by another user of the application</li> <li>2. The meeting they've been invited to appears on the main dashboard/meeting page</li> <li>3. A modal in the UI appears for the current user with basic information regarding the optional meeting topic and host, along with a button to join</li> <li>4. Employee clicks the join button, and they successfully join the meeting in their zoom client</li> </ol>
<b>Alternates Step 1</b>	<p>At step (3.) of Main Scenario if: The invitation to the meeting has expired, or meeting has been closed</p> <ul style="list-style-type: none"> <li>• A pop-up appears alerting them that the meeting is no longer joinable</li> <li>• The modal in (2.) closes and they are brought back to the window they were on before the modal appeared.</li> <li>• The meeting is no longer visible on the main dashboard/meeting page</li> </ul>


Use Case 6: View meetings past and future in calendar form	
<b>Description</b>	A user is able to view past, present, and future meetings in a calendar format.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• The user is registered in our SSO</li> <li>• The user is logged in to the App/Zoom</li> <li>• The user is on the "Calendar" page of the web app</li> <li>• The user is included in at least one scheduled meeting to be able to view it</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>• The scheduled meetings for that user appear on the "Calendar" page of the web app</li> <li>• The meeting information is viewable from each meeting block on the calendar</li> <li>• The participants list is viewable from each meeting block on the calendar</li> <li>• The user is able to change the timeframe for the calendar between day, week, and month</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. Employee selects a timeframe while on the "Calendar" page of the app</li> <li>2. Employee is able to view all past/future meetings in that timeframe</li> <li>3. Employee clicks on a meeting block to view the participants on meeting information</li> <li>4. Employee is able to join meeting directly from the calendar meeting block</li> </ol>
<b>Alternates Step 1</b>	<p>At Step (1.) of Main Scenario if: The user selects a different timeframe on the calendar</p> <ul style="list-style-type: none"> <li>• The calendar UI will switch to accommodate that time frame</li> </ul>
<b>Alternates Step 2</b>	At Step (2.) of Main Scenario if: There are no past/future meetings for that user

Use Case 7: Schedule future meetings	
<b>Description</b>	A user has the ability to schedule a future meeting for a specific group through the click of a button.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• The user is registered in our SSO</li> <li>• The user is logged in to the App/Zoom</li> <li>• The user has created a group of other registered users</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>• A new Zoom Meeting is created and scheduled for the set time in the future</li> <li>• All of the group members are invited to the meeting, and it is added to their calendar</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. Employee clicks "Schedule Meeting" button above a group of co-workers</li> <li>2. A modal pops up and the user enters meeting details, including date, time and meeting description</li> <li>3. A zoom meeting is scheduled for the time and date entered by the user</li> <li>4. All members of the group are invited to the Zoom Meeting scheduled meeting, and their calendars are updated</li> </ol>
<b>Alternates Step 1</b>	At Step (2.) of Main Scenario if: any co-workers are busy during the scheduled time <ul style="list-style-type: none"> <li>• An alert will pop up telling the user which individuals are busy at that time</li> <li>• If the meeting is still created, the employee's that have conflicts will be notified by email that they have multiple meetings scheduled at the same time</li> </ul>
<b>Alternates Step 2</b>	At Step (3.) of Main Scenario if: There is an error creating the scheduled Zoom Meeting <ul style="list-style-type: none"> <li>• Then a pop-up appears alerting the user that the meeting could not be scheduled</li> </ul>

Use Case 8: Watch recordings of past meetings	
<b>Description</b>	A user has the ability to view the recordings of previously held meetings that were recorded.
<b>Primary Actor</b>	HSBC Employee (user)
<b>Preconditions</b>	<ul style="list-style-type: none"> <li>• The user is registered in our SSO</li> <li>• The user is logged in to the App/Zoom</li> <li>• The meeting that is going to be viewed was recorded</li> </ul>
<b>Postconditions</b>	<ul style="list-style-type: none"> <li>• The user is able to view the meeting recording in their browser</li> </ul>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. Employee clicks on the previous meeting that they would like to watch</li> <li>2. A button appears that allows user to view the recorded meeting which the user clicks</li> <li>3. The recording appears in the browser for the user to watch</li> </ol>
<b>Alternate Steps 1</b>	At step (2.) of Main Scenario: if recording of meeting is unavailable <ul style="list-style-type: none"> <li>• An alert will pop up informing the user that the recording is not available to view</li> <li>• After closing the alert user will be sent back to list of previous meetings</li> </ul>

## 6.2 Mockup Designs (Deprecated)

### Preliminary Office View Design





HSBC

TEAM VISION

OFFICE

GROUPS

CALENDAR



Branden

K Siegle

Lorem ipsum dolor sit amet,  
consectetur adipiscing elit,  
sed do eiusmod tempor inci-  
didunt ut labore et dolore  
magna aliqua. Quis ipsum  
suspendisse ultrices gravida.  
Risque commodo viverra  
maecenas accumsan lacus  
vel facilisis.

Meeting Rooms

SORT ▼

Room 1

JOIN

- Member # 1
- Member # 2
- Member # 3
- Member # 4
- Member # 5

Room 2

JOIN

- Member # 1
- Member # 2
- Member # 3
- Member # 4
- Member # 5

Room 3

JOIN

- Member # 1
- Member # 2
- Member # 3
- Member # 4
- Member # 5

Page 12 of 13

## Preliminary Groups View Design

HSBC ZOOM	Office	Groups	Calendar	
-----------	--------	--------	----------	--

Relevant Info

Search...

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Groups

New Group

Search...

Sort By

Group 1

Call Schedule Meeting

Member1 - Location

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Add Member

Group 2

Call Schedule Meeting

Member1 - Location

\_\_\_\_\_

Add Member

## Preliminary Calendar View Design

HSBC ZOOM	Office	Groups	Calendar	
-----------	--------	--------	----------	--

Relevant Info

Search...

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Calendar

< Jan 24 - 27 >

Jan 24

9

10

11 Meeting 1

12

1

2 Meeting 2

3

4

5

Jan 25

9

10

11 Meeting 1

12

1

2 Meeting 1

3

4

5

Jan 26

9

10

11 Meeting 1

12

1

2 Meeting 2

3

4 Meeting 3

5

Jan 27

9

10

11 Meeting 1

12

1

2

3

4 Meeting 2

5

Jan 28

9

10

11 Meeting 1

12

1

2

3

4 Meeting 2

5