Microsoft Teams Clone

Overview

In this sprint methodology, we will be building a clone for the Microsoft Teams Application which will encompass minimum features set requirement: **a minimum of two participants should be able to connect using your product to have a video conversation** and subsequentially, work on some additional features to bring out the clear picture of the application.

The following properties on our PRD define the target ***release date of the project*** we are currently focusing on, and the bigger problem statement at hand (epic in agile methodology), i.e., to build a clone for the Microsoft Teams Application. We will be working on developing a ***web-based application*** of the clone project using basic frontend technologies and WebRTC.

Target release	**10th July 2021**
Epic	**To build Microsoft Teams Clone**
Document status	DRAFT
Document owner	@ Manika Jain
Designer	**Manika Jain**

Change History

1. Add Picture-in-Picture feature
2. Understand the metrics behind user engagement and retention
3. Provide focused solutions towards code modularity and readability
4. Prioritize Test-drive approach before pushing the final version
5. Give equal importance to code performance and metrics

Objective 💯

The objectives of this sprint can be segregated as follows:

1. ***Minimum Viable Requirement***: Create a fully functional prototype with the mandatory functionality a minimum of two participants should be able to connect using your product to have a video conversation.
2. ***Additional Features***: After closing on the MVP of the product, start building upon the additional functional features of the prototype to give the user a nuanced experience of your web-conferencing application. (Additional features may include recording the meeting, sharing the screen, inviting multiple users to join the call, invoking the mute or speaker button, etc.)

Success metrics

Success metrics of the application in the order of priority:

1	**Goal** 😀	**Metric** 💯
2	Provide the user with the functionality to connect with anyone over the world	Customer Satisfaction Score increases
3	The user has an easy experience navigating through the different functionalities provided	Customer Satisfaction Score increases
4	More users visit the application and in turn, visit back often at the stipulated time period	Customer retention rate increases
5	Provide increased functional features within the virtual meeting environment to elevate the experience	Customer Satisfaction Score increases
6	The application should have an aesthetically pleasing visual design.	Customer retention and satisfaction score, both increase.

7	Works well across multiple platforms (web and mobile-friendly)	Customer retention and satisfaction score, both increase.

Features to implement 💻

Following are the features that will be implemented during this sprint of the project:

Minimum Viable Features

- Ability to connect two participants: This feature will work upon providing the minimum functionality offered by any video conferencing application, i.e., a minimum of two participants should be able to connect via your product to have a video conversation.
- Simple UI/UX navigation: The user should be able to understand the flow of the whole application consistently without having to peruse for common functionalities. The application should have clear navigation, understandable labeling, well-defined iconography, orientation within the app/service/site is clear, links and CTAs (Call-To-Action) are obvious, well-labeled, and consistently presented.

Additional Features

- Multiple participants in the meeting: An added feature where the user can take the leverage to add multiple participants to the meeting by providing the meeting link/code.
- User Registry/Authentication: Maintains a list of registered users in our database and allows those users to use our application with
- Time Elapsed: The users are shown a clock/time which indicates the time elapsed since the beginning of the meeting (or since when the user himself/herself joined).
- Participant Count: The user is shown the number of participants currently in the meeting
- Video Conferencing with Canvas Sharing: Supports live video conferencing for multiple rooms at the same time Canvas sharing - Real-time whiteboard sharing with one controller (who can be changed)
- Public Chat Feature: It is a common per-room chat where the user can type a message which will be sent to all the members of the room.
- Private Chat Feature: It is a chat between any two users of the room which is exclusive to them.
- Presentation Sharing: Real-time presentation sharing functionality Video streaming and sharing - Real-time video streaming and sharing
- In-App Integrations: This functionality will allow the user to use some commands to integrate some apps like Spotify, MS Office, etc.
- Record the meeting: Provides the user an added functionality to record the meetings and be stored in their storage database
- Toggle Audio/Video: Allows each user to decide whether to receive audio or video from a given meeting participant
- Integrated Bot: Provides the user an in-built bot to carry out some tasks (eg, bookmark conversations, verify some resources, gather knowledge, etc.)

User Personas 👩‍💼

1. **General User**: The participant in the meeting, who can view video streams of other users, view canvas, view presentations, and participate in chats. He/she can be converted into a controller by the administrator.
2. **Administrator**: The creator of the room is known as the administrator. Holds various powers like granting control to other users, muting other users, and ending the meeting altogether.
3. **Controller**: The user who has the right to present a presentation, stream a local video, or draw on the canvas is known as the controller of the meeting.

Performance metrics 💯

Below are some of the important performance metrics that need to be kept in mind while designing the application:

- Execution Time of the Application
- Memory Consumption
- Program Size
- CPU Utilization
- Cycle Time
- Application Response Time
- Database Throughput
- Database Response Time
- HTTP Response Time
- HTTP Error Rate (%)
- AVG. Throughput (rpm)
- AVG. Memory (Mb)

- AVG. Interaction Time (ms)

Assumptions

Following are some of the assumptions, technical constraints understood while doing the primary and secondary research around the application:

- Most users will access this application via web browsers.
- All users will have internet connectivity and hence will be able to access the application via respective browsers.
- Users have enabled their video and audio capabilities for the application to render it.

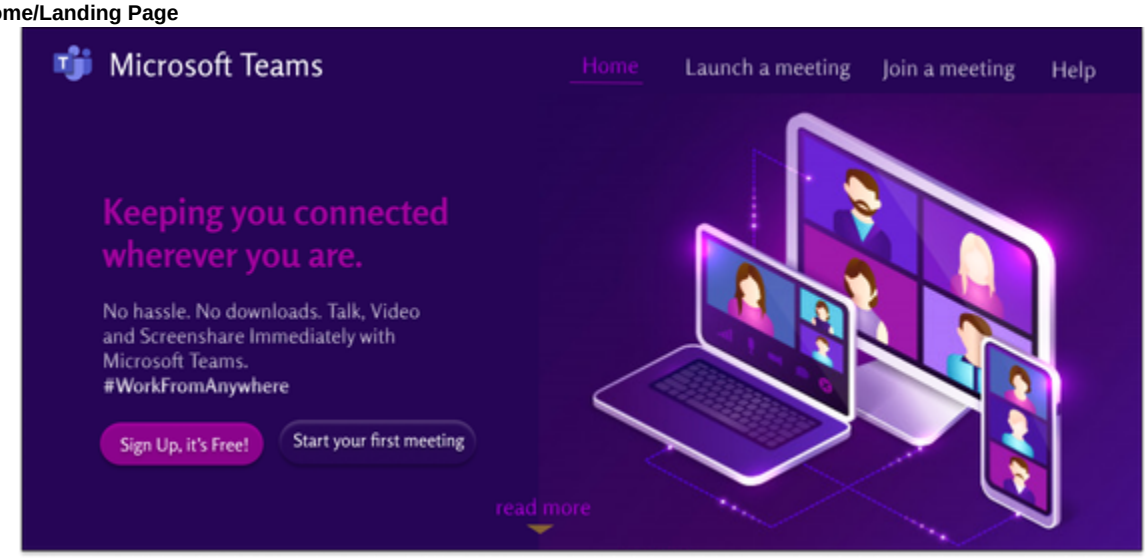
Timeline of the Development

The following roadmap planner will provide a clear timeline for the execution of the whole product with the expected features during the whole sprint.

User interaction and design

Some of the initial UI/UX Designs for the application encompass the home page, the video conferencing interface, chat application feature, etc.

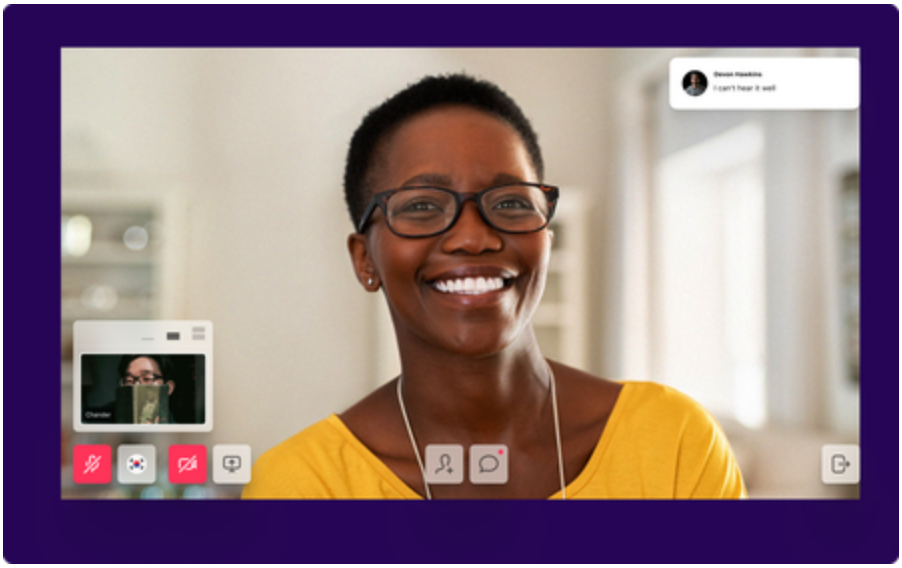
1. **Home/Landing Page**



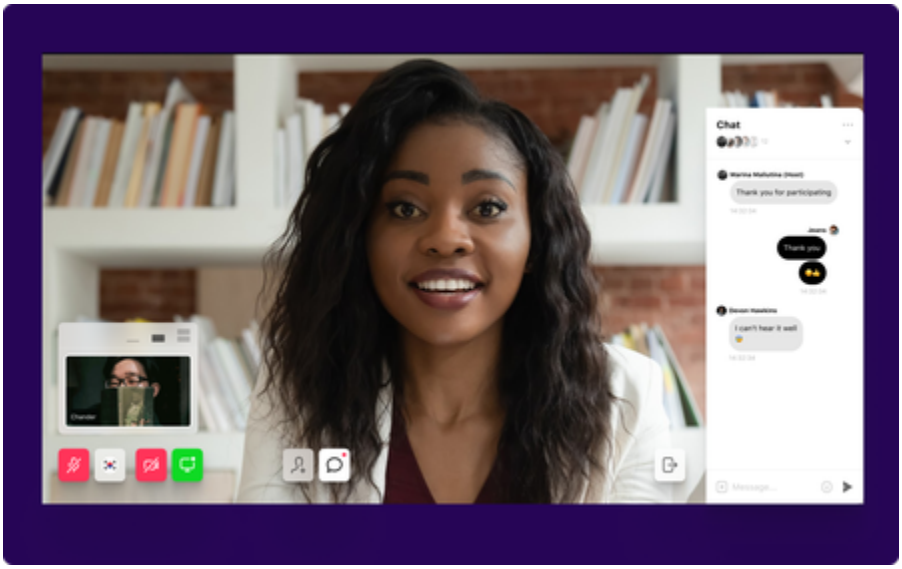
2. **Video-Conferencing Interface**

1. Multi-participants

2. **Two Participants Interface**



3. **Public Chat Application Feature**



Open Questions

Question	Answer
How will we make users aware of the entire flow of the application with proper navigation?	Easy user navigation through following concise UI/UX principles. Discard any feature or version that complicates the application
How we correctly define our performance metrics for the application?	Performance metrics will be directly measured in comparison with the user engagement, satisfaction and retention ratio using analytics
How will we understand the user retention ratio is high and the user is finding the application useful?	We understand that the content and service we are providing is useful by understanding the analytics and metrics behind it
How will we ensure that the user can see/hear the other participant in the web application?	Through different methods, like mic testing, enabling browser settings, etc.

Out of Scope

Features that are right now marked as out of scope of this sprint and will be worked upon in the future scope of this project:

- In-App Integration
- Integrated Bot Feature
- Translation Feature
- In-Built Calendar Feature (For scheduling meetings)
- Bookmark Conversations
- Specific Channel meetings
- Two-Factor Authentication