Media Streaming

Date	30 September 2023
Team ID	5566
Team Name	Proj_227254_Team_2
Project Name	Media streaming with IBM Cloud streaming

Problem Definition:

The project involves creating a virtual cinema platform using IBM Cloud Video Streaming. The objective is to build a platform where users can upload and stream movies and videos on-demand. This project encompasses defining the virtual cinema platform, designing the user interface, integrating IBM Cloud Video Streaming services, enabling on-demand video playback, and ensuring a seamless and immersive cinematic experience.

Design Thinking

Media Streaming Empathy Map Canvas

1. User Persona:

Start by defining the user persona you're trying to understand. This should include basic demographic information like age, gender, location, and any relevant details about their media consumption habits.

2. What They See:

Visual cues and surroundings when using media streaming services.

What devices are they using (e.g., smartphones, smart TVs, computers).

The interface of the streaming platform they use.

3. What They Hear:

Any audio-related aspects of media streaming, like sound quality.

What kind of content or recommendations they hear about from others.

4. What They Say and Do:

User behaviors related to media streaming (e.g., binge-watching, sharing content).

Any feedback or comments they provide on social media or review platforms.

Verbal statements or actions related to their streaming preferences.

5. Pains and Gains:

The challenges or frustrations they encounter while using media streaming.

What they hope to achieve or gain from media streaming (e.g., entertainment, information, relaxation).

Any obstacles that hinder their streaming experience.

6. Thoughts and Feelings:

Emotions and thoughts associated with media streaming (e.g., excitement, frustration, boredom).

Their expectations and concerns regarding privacy and security.

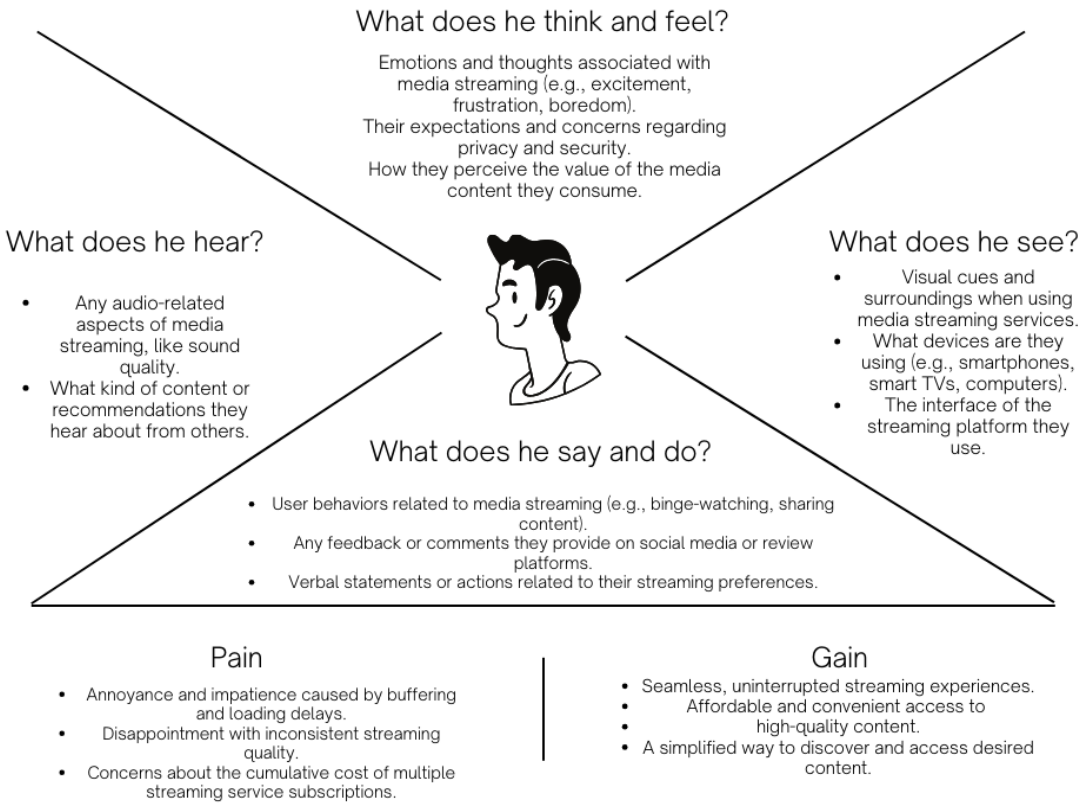
How they perceive the value of the media content they consume.

7. Goals and Desires:

Short-term and long-term goals related to their media consumption.

What they hope to achieve with media streaming services (e.g., discover new shows, stay informed, connect with others).

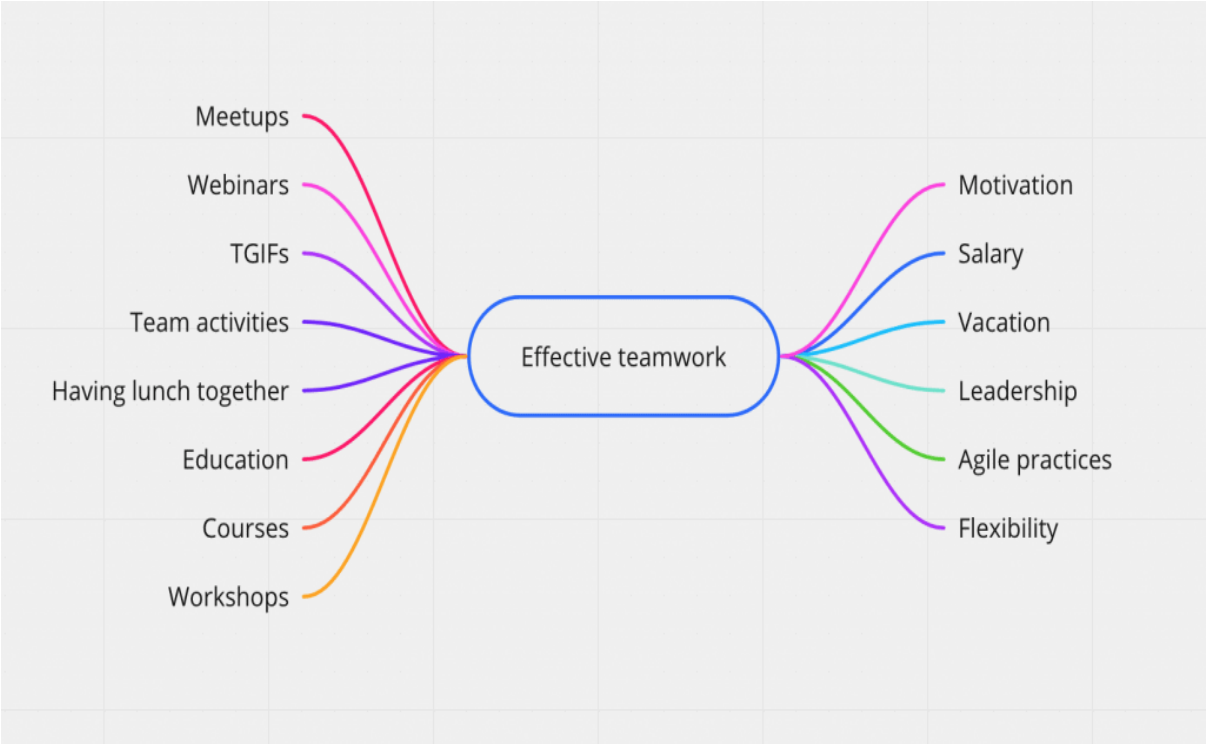
Empathy Map :



Brainstorming & Idea Prioritization

Brainstorm :

Brainstorming is a group creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members. Brainstorming is a situation where a group of people meet to generate new ideas and solutions around a specific domain of interest by removing inhibitions. People are able to think more freely and they suggest as many spontaneous new ideas as possible. All the ideas are noted down without criticism and after the brainstorming session the ideas are evaluated.

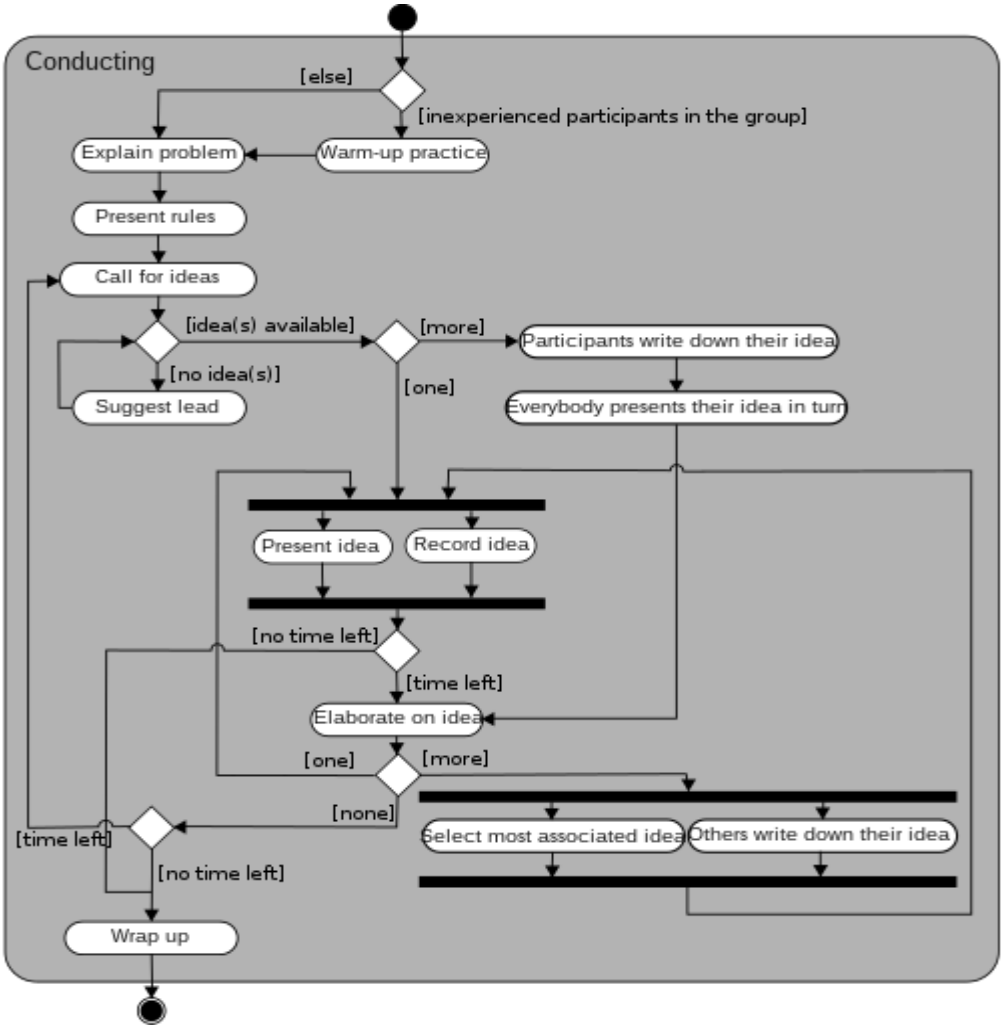


Rules Of Brainstorming :

1. *Go for quantity*:
   This rule is a way of enhancing divergent production, aiming at facilitation of problem solution through the maxim *quantity breeds quality*. The assumption is that the greater the number of ideas generated the bigger the chance of producing a radical and effective solution.

2. *Withhold criticism*:

   In brainstorming, criticism of ideas generated should be put 'on hold'. Instead, participants should focus on extending or adding to ideas, reserving criticism for a later 'critical stage' of the process. By suspending judgment, participants will feel free to generate unusual ideas.



3. *Welcome wild ideas*:

   To get a good long list of suggestions, wild ideas are encouraged. They can be generated by looking from new perspectives and suspending assumptions. These new ways of thinking might give better solutions.

4. *Combine and improve ideas*:
   As suggested by the slogan "1+1=3". It is believed to stimulate the building of ideas by a process of association.

Variations

Normal Group Technique

Participants are asked to write their ideas anonymously. Then the facilitator collects the ideas and the group votes on each idea. The vote can be as simple as a show of hands in favor of a given idea. This process is called distillation.

After distillation, the top-ranked ideas may be sent back to the group or to subgroups for further brainstorming. For example, one group may work on the color required in a product. Another group may work on the size, and so forth. Each group will come back to the whole group for ranking the listed ideas. Sometimes ideas that were previously dropped may be brought forward again once the group has re-evaluated the ideas.

It is important that the facilitator is trained in this process before attempting to facilitate this technique. The group should be primed and encouraged to embrace the process. Like all team efforts, it may take a few practice sessions to train the team in the method before tackling the important ideas.

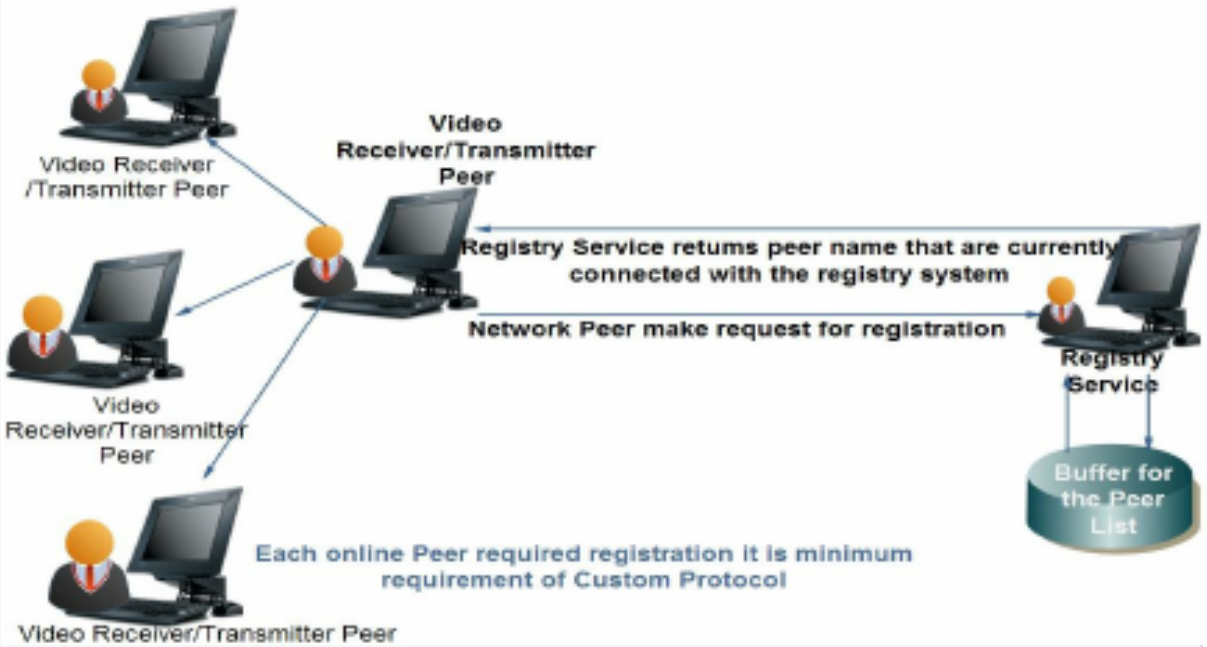
Define the Problem Statements Customer

Problem Statement Template :

In user experience design there are five steps to the design thinking process: Empathize, Define, Ideate, Prototype, and Test. Multimedia can be an exciting addition to business communication. Its glitziness and fun hold great temptation for the business. Moreover, organizations, institutes, and business houses can earn real and potential benefits. Even then, the adoption of multimedia by businesses has been very low. There are many reasons for the unwillingness. Multimedia is everything that we hear or see. A problem statement is an explanation in research that describes the issue that is in need of study.

Major Issues :

Multimedia streaming faces several major issues and challenges, which can impact the quality and reliability of streaming services. Some of the major issues in multimedia streaming include:



1. **Bandwidth Limitations:** Limited internet bandwidth can lead to buffering, lower video quality, and interruptions in streaming.
2. **Latency:** Latency issues can cause delays in video playback and affect real-time interactions, such as live streaming or video conferencing.
3. **Congestion:** Network congestion during peak usage times can result in slower streaming speeds and reduced video quality.
4. **Codec Compatibility:** Incompatibility between codecs used by the streaming service and the viewer's device can lead to playback issues.
5. **Device and Platform Fragmentation:** The wide variety of devices and platforms used for streaming (e.g., smartphones, smart TVs, gaming consoles) can make it challenging to ensure a consistent streaming experience across all devices.
6. **Content Delivery:** Efficient content delivery is crucial. Content delivery networks (CDNs) help distribute content geographically to reduce latency and improve streaming quality.
7. **Quality of Service (QoS):** QoS issues can impact streaming quality, especially in cases where network providers do not prioritize streaming traffic.
8. **Buffering and Start-ups Delays:** Buffering delays can frustrate users, especially when content takes a long time to start playing.
9. **Ad Insertion:** The insertion of ads during streaming can sometimes disrupt the viewing experience if not properly managed.
10. **Content Piracy:** Protecting copyrighted content from piracy is an ongoing challenge for streaming providers.
11. **Security Concerns:** Protecting user data and ensuring secure streaming experiences is vital, especially for paid streaming services.
12. **Content Licensing:** Negotiating and maintaining licensing agreements with content providers can be complex and costly.
13. **User Experience:** Providing a seamless and user-friendly interface for content discovery and playback is critical for retaining viewers.
14. **Accessibility:** Ensuring that multimedia content is accessible to people with disabilities is a legal and ethical requirement in many regions.
15. **Geographic Restrictions:** Some content may be subject to regional licensing restrictions, leading to limited availability in certain areas.
16. **Live Streaming Challenges:** Live streaming involves real-time delivery, making it susceptible to issues like network instability and scalability challenges.

17. **Video Quality:** Ensuring consistent and high-quality video across various devices and screen sizes can be technically demanding.
18. **Content Delivery Costs:** The cost of content delivery, especially for high-quality video and live streaming, can be substantial.