



**Theme :** Enhanced Fire TV Experience

**Group Name :** Non og gang

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**College :** Delhi Technological University



# Problem Statement & Scope of Innovation

## Problem Statement

OTT platforms do not consider users' emotional states, leading to irrelevant recommendations.

Existing platforms lack interactive social features, making viewing a lonely and disconnected experience.

Current personalization is shallow and static, ignoring changes in user preferences over time.

There is no integration with biosensors or wearables to understand users' real-time context.

## Scope of Innovation

Implement emotion and time-aware content suggestions to enhance user satisfaction and engagement.

Enable social watch parties with live chat and mood sync to make content consumption more communal.

Offer dynamic personalization using behavioral trends, mood shifts, and time-based viewing patterns.

Leverage data from Alexa-enabled wearables to detect emotions and provide real-time intelligent responses.

# Working Backwards from Customer



## Primary Customer

- Age 16–35
- OTT heavy users
- Value personalization and emotion-matching entertainment
- Use Alexa devices / Fire TV



## Secondary Customer

- Families or flatmates
- Interested in shared viewing low-friction suggestions



## Pain Points Solved

What should we watch? solved by mood/time-based recommendations

No shared experience solved by social room & live sync



# Success Metrics & Impact



**20% less time**  
to find content



**25% increase**  
in content completion



**35% rise**  
in social room usage



**50% spike**  
in smart alert interaction



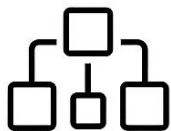
**2x increase in**  
biosignal-to-content match

## Impact

- Human-centric streaming experience
- Elevated user satisfaction levels
- Ecosystem retention improved
- Adoption in shared Gen Z environments



# Scope for Scalability & Marketplace Expansion



Modular features  
for phased rollout



Reusability of  
emotion/social logic  
for Amazon Music  
& Books



Brand tie-ins  
(e.g., relaxing tea  
with calm mood)



Expansion to Echo Show,  
Fire Tablets, and mobile  
Fire TV app



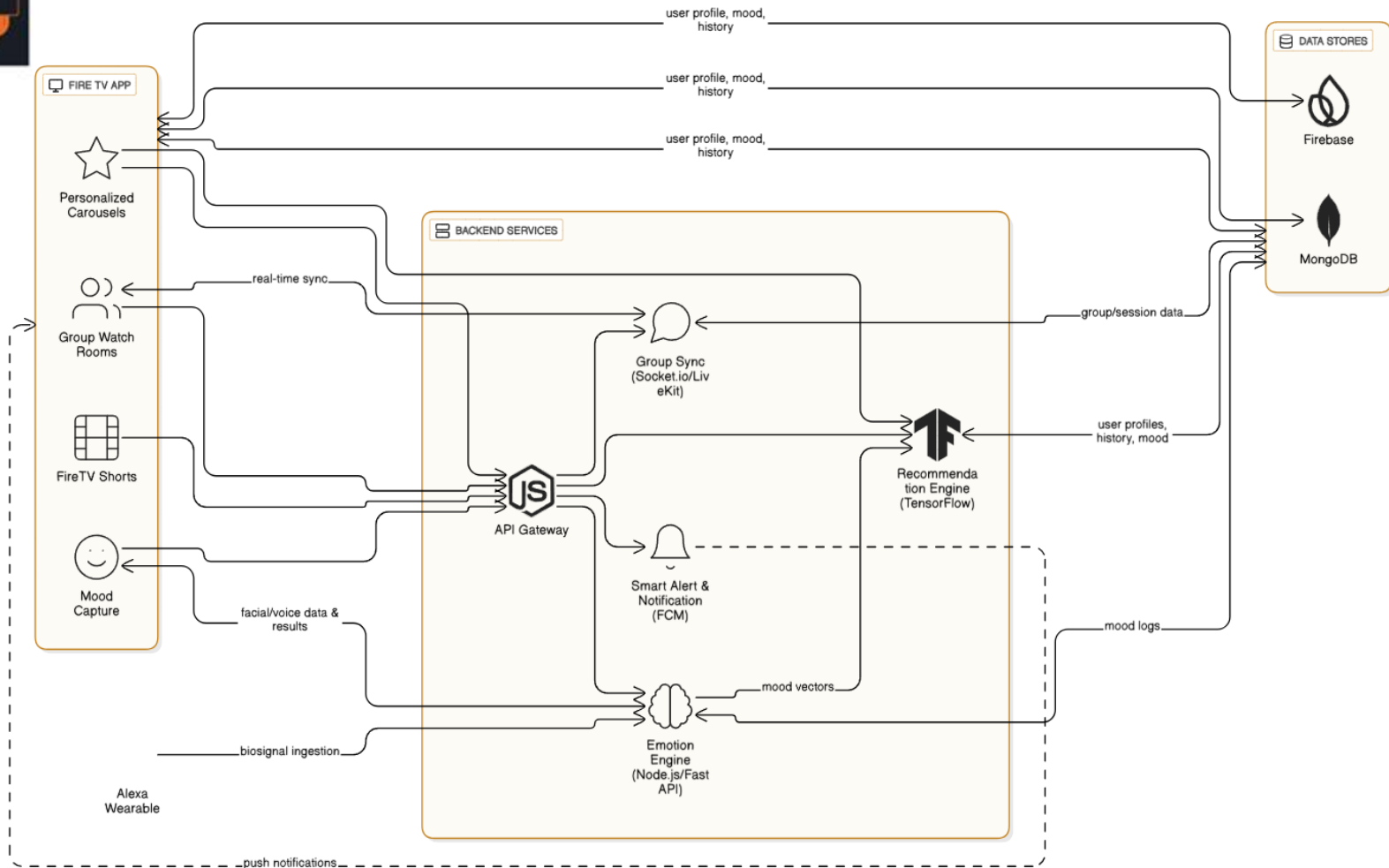
Emotion-personalized  
ads



Contextual commerce  
(buy what characters  
wear/consume)



# Architecture Overview





# Feature Implementations



## Emotional-State-Based-Recommendations

Using webcam/mic with MediaPipe and speech emotion model feedin mod into personalized genre



## Time-of-Day Personalization

Tagging content by preferred time with device clock and local timezone triggering recommendation shifts



## Group Sync Room

Real-time video sync using LiveKit, integrated chat and emoji reactions usin Sycket io, session state synced across participants



## Mood of the Party Group

Individual mood selection or facial input. aggregated group emotions



## FireTV Shorts

Auto-generated 30s previews using FFmpeg and key scene detector carousel interface with vertical swipe like TikTok



## Smart Personalized Alerts

Push reminders using FCM at preferred watch times

Feeling a bit down? Let's watch something to lift you spirits



# Differentiators, Readiness & Challenges

## Unique Selling Points:

- Emotion x Social fusion on Fire TV
- First-ever group mood recommender
- TikTok-style content discovery
- Integration of biosignal + emotional state

## Hackathon Readiness:

- Mock biosignal inputs + emotion APIs
- Real-time chat + Fire TV UI emulator
- 3–5 pre-built use cases for demo

## Challenges:

- Facial/voice emotion detection latency
- Group mood disagreement resolution
- Keeping video sync jitter-free

