



IBC2024

Predictive Generative AI Lab: Changing the Game

#ACCELERATORS2024

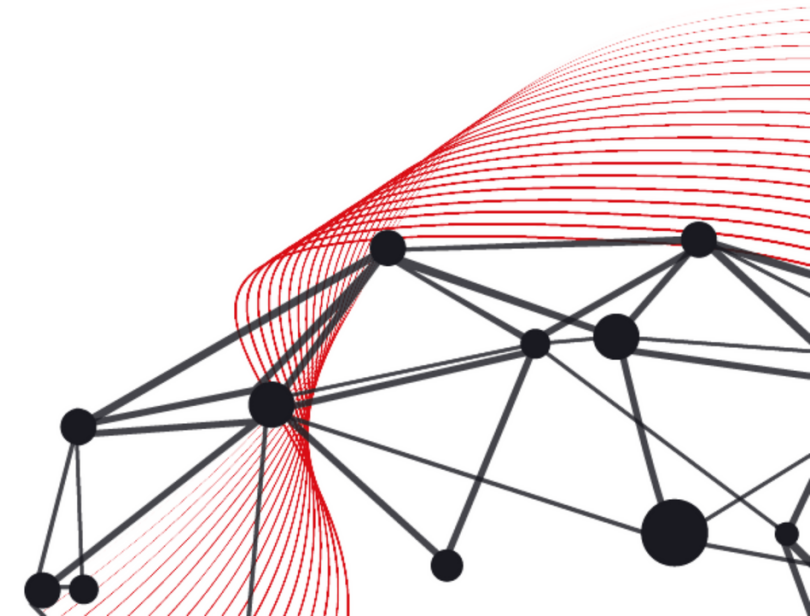




IBC2024

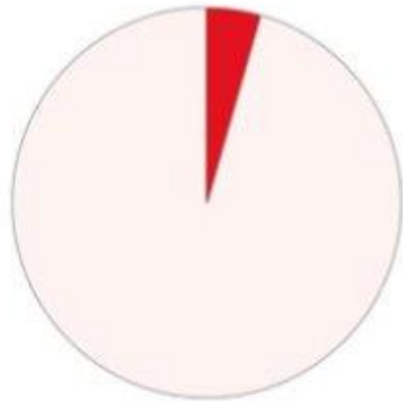
#ACCELERATORS2024

Over the past two years, an audience's attention span has gone from two and half minutes to 47 seconds.





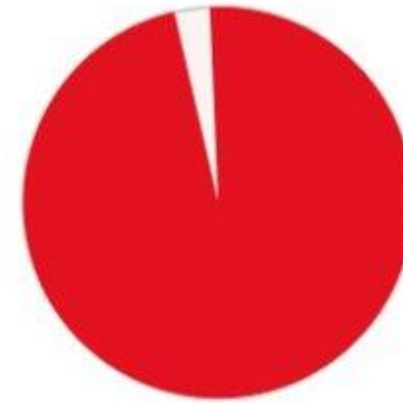
At the same time, sport events have become the most viewed broadcasts.



2005

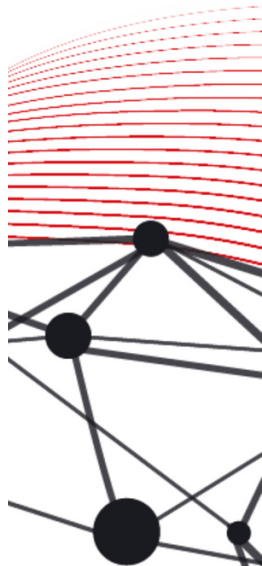
14 out of the top 100 most-viewed TV broadcasts were live sports events.

In 17 Years



2022

live sports accounted for 91 of the top 100 most-viewed broadcasts.





IBC2024

#ACCELERATORS2024

Which means if content providers want to keep a viewer engaged in this new era of entertainment, new media experiences that connect with the viewer on a personal level need to be delivered. We must leverage Generative AI with human interaction.

We need to change the game.





IBC2024

The Vision

Challenge

Change the game by inviting the audience to direct the type of content they want to see on their devices by leveraging a real-time interactive experience.

Objectives

- Personalized Content
- Real-time Interactivity
- Authentic connection

Final Concept

An AI Sports Companion that provides.

- An authentic real-time conversation with an AI to ascertain the user's sports knowledge
- A personalized highlight clip of a game in action based on the user's conversation and profile

#ACCELERATORS2024





IBC2024

#ACCELERATORS2024

Project Components

Team

Content

**User
Experience**

Architecture





IBC2024

#ACCELERATORS2024

Team

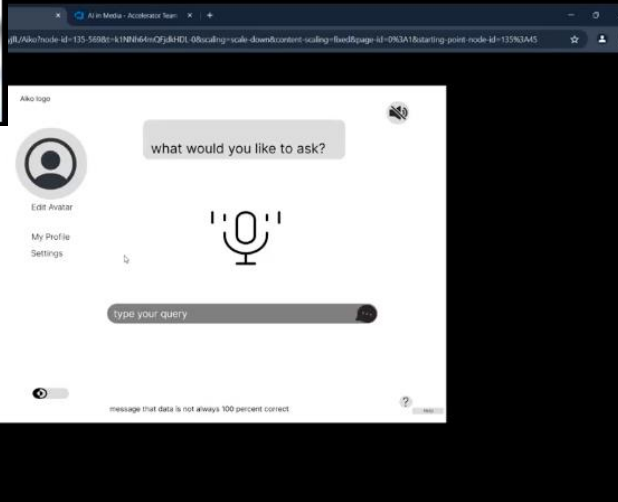
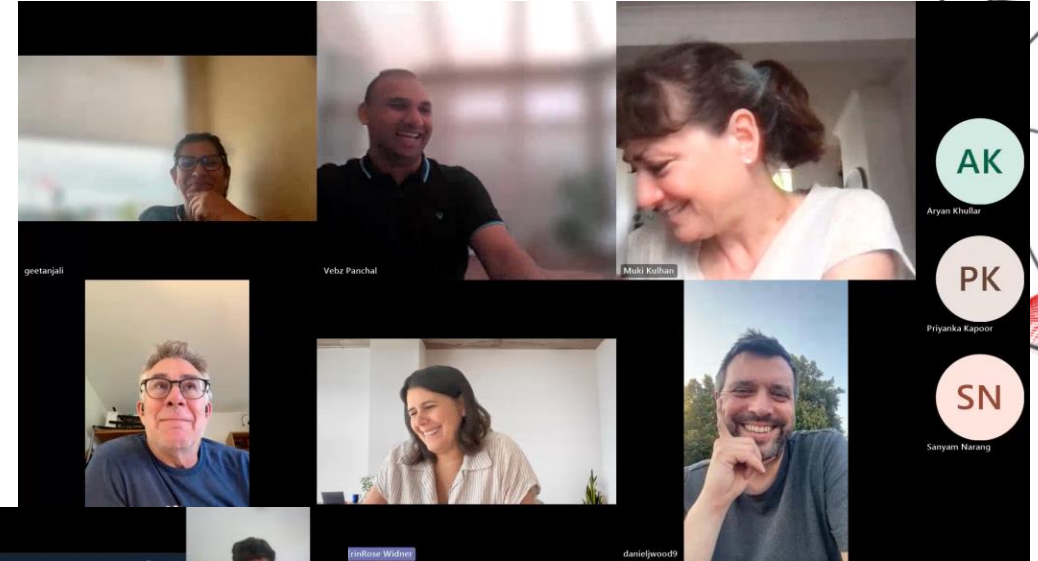
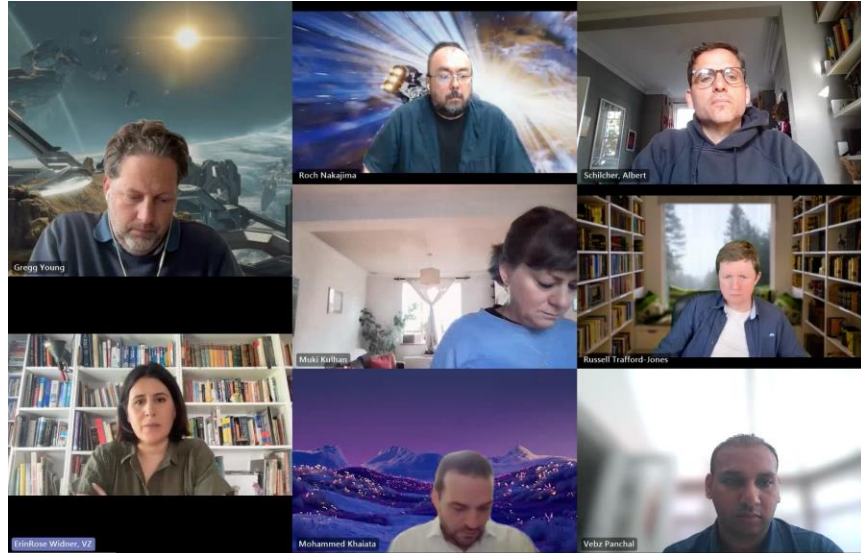
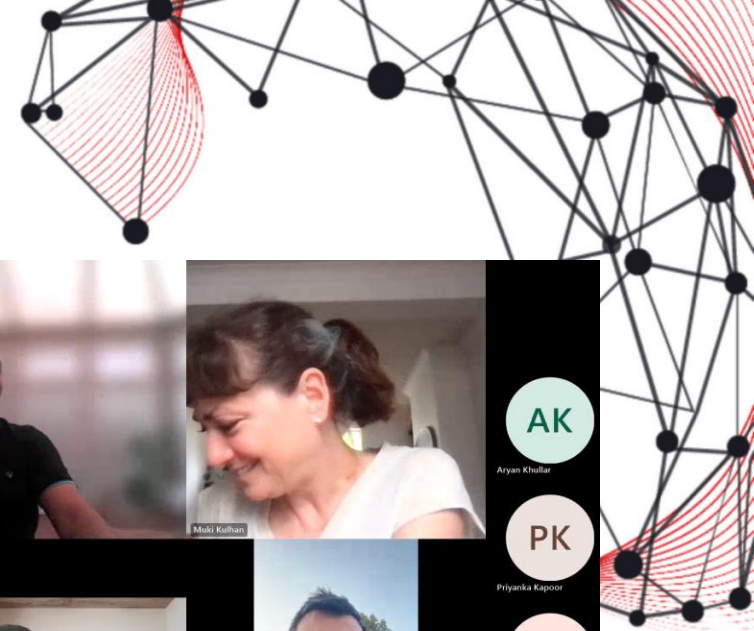




IBC2024

Team: Collaboration

#ACCELERATORS2024





IBC2024

#ACCELERATORS2024

Team: Global Connection

Global Team across multiple countries which posed some challenges with a 12.5 hour time difference, but also allowed us to work collaboratively 24/7. Additionally, the global team brought greater cultural awareness and nuances to the overall POC experience.





IBC2024 Team (1 of 3)

#ACCELERATORS2024



ErinRose
Widner



Vaibhav
Panchal (Vebz)



John Canning



Geetanjali
Mehta



Dan Wood



Mohammed
Khaiata



IBC2024 Team (2 of 3)

#ACCELERATORS2024



Sanyam Narang



Akshay Hooda



Nikunj Khitha



Aryan Khullar



Priyanka Kapoor



Nitin Sharma



IBC2024 Team (3 of 3)

#ACCELERATORS2024



Gaurav Mahajan



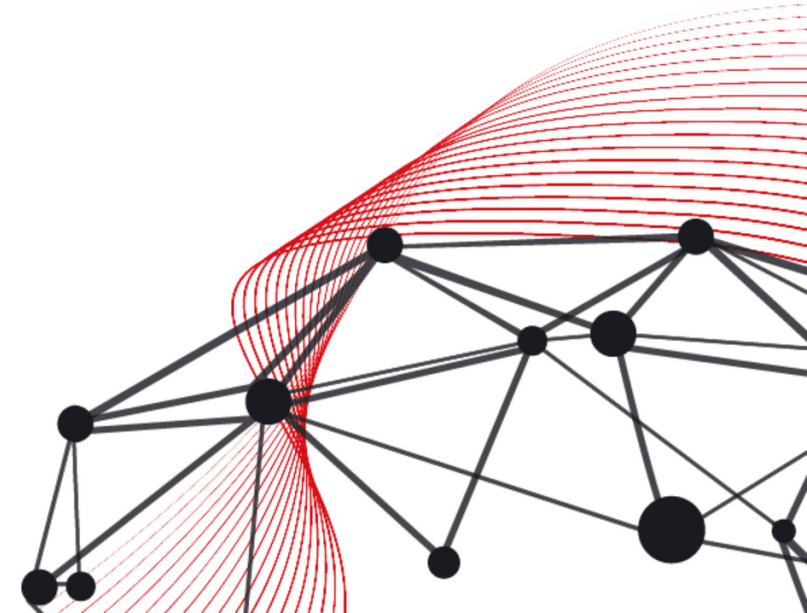
Yash Srivastava



Rohan
Pashankar



Anindya
Chowdhury





IBC2024

#ACCELERATORS2024

Content





IBC2024

Content

#ACCELERATORS2024



Challenges

Rights

Usage

Ideation

Content Types

Source
Content

Create Content

Solution

SuperSport
Schools

The World
Freestyle
Football
Association





IBC2024

#ACCELERATORS2024

Content Providers



SuperSport Schools exists to grow school sports and get more sports stars to shine, across the African continent by broadcasting the full African school sports story.

POC Use Challenges:

- Some players were under 18 and we wanted to anonymize who they were for their privacy, which meant creating metadata (ie. names, historical stats, etc.)
- Not as much existing historical data as a pro league
- Some of the players did not have legible jersey numbers



IBC2024

Content Providers

#ACCELERATORS2024



The WFFA is the world governing body for the emerging sport of Freestyle Football.

A GenZ focused, digitally native sport with Olympic goals.

POC Use Challenges:

- Not enough documentation on what are key moments to provide a great highlight
- Quality of camera feeds at times had clear unobstructed camera angles
- Missing historical data around venues and participant data



IBC2024

#ACCELERATORS2024

User Experience

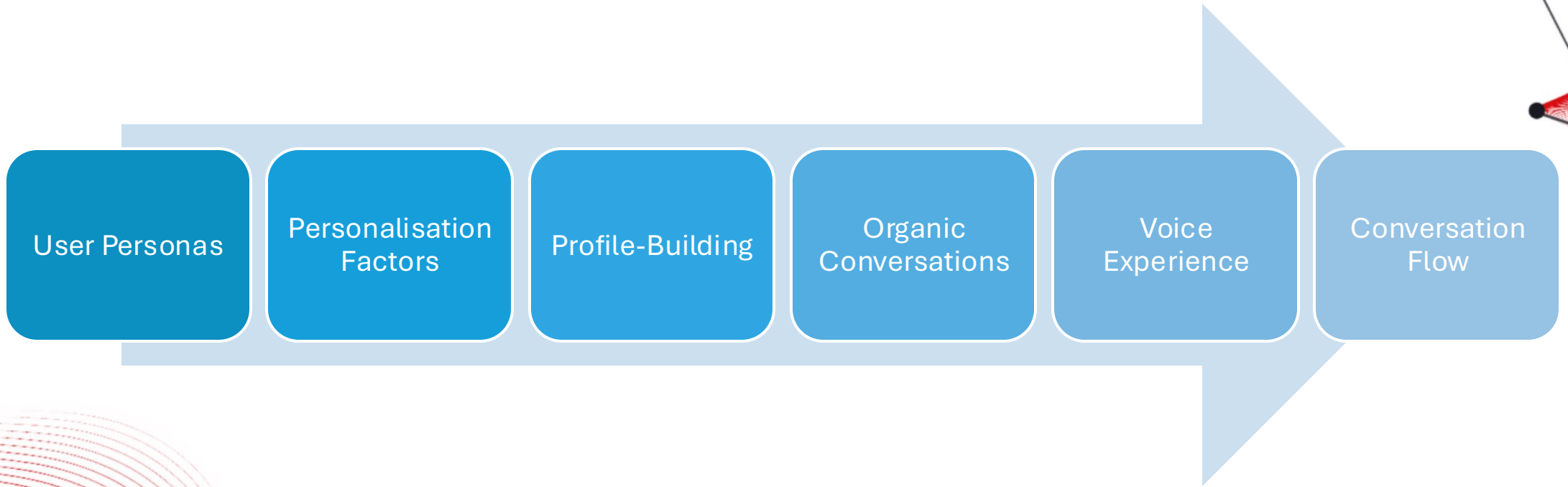




IBC2024

#ACCELERATORS2024

User Experience: Overview





IBC2024

#ACCELERATORS2024

Creating the User Experience

User Privacy

Ensure that user data is handled securely, and communicate how data is used, while giving users control over their privacy preferences including anonymity.

User Centric Design

Maintain a consistent look and feel across all elements of the platform. Including visuals, language, and functionality, to create a cohesive experience.

Inclusivity

Interactive experience can be written or verbal. Conversation engages around cultural and geographical backgrounds. Audio Description provides additional accessibility.

Conversational Style

Designed for friendly, genuine dialogue. Selected human-like voices through rigorous testing. Focused on user comfort and engagement.

Flexible Scripting

Adaptable scripting to ensure user engagement, while leading them to the end experience.

Persona Building

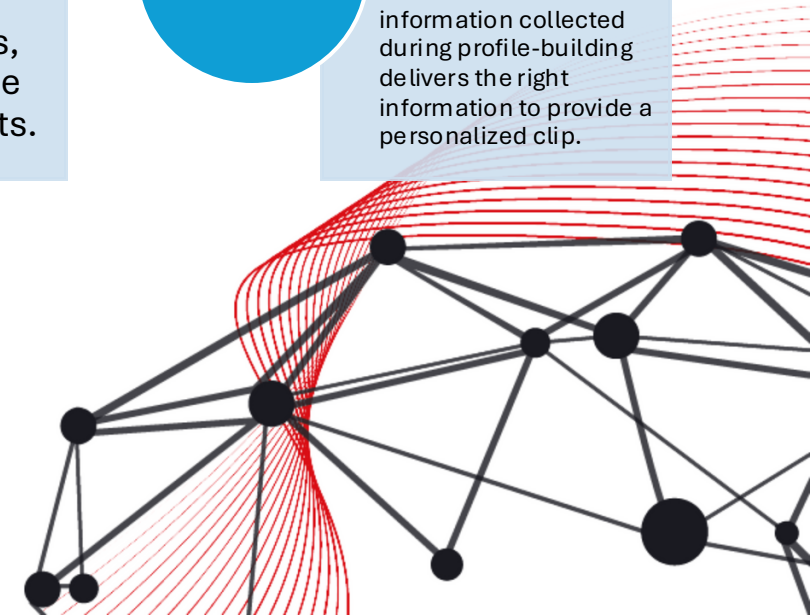
Emotionally engage with user to derive sports persona profile (ie. newbie, intermediate, superfan).

Subject Knowledge

Global sports, teams, players, historical game and venue facts.

Architecture Validation

Validate that the information collected during profile-building delivers the right information to provide a personalized clip.





User Experience: Creating Personas

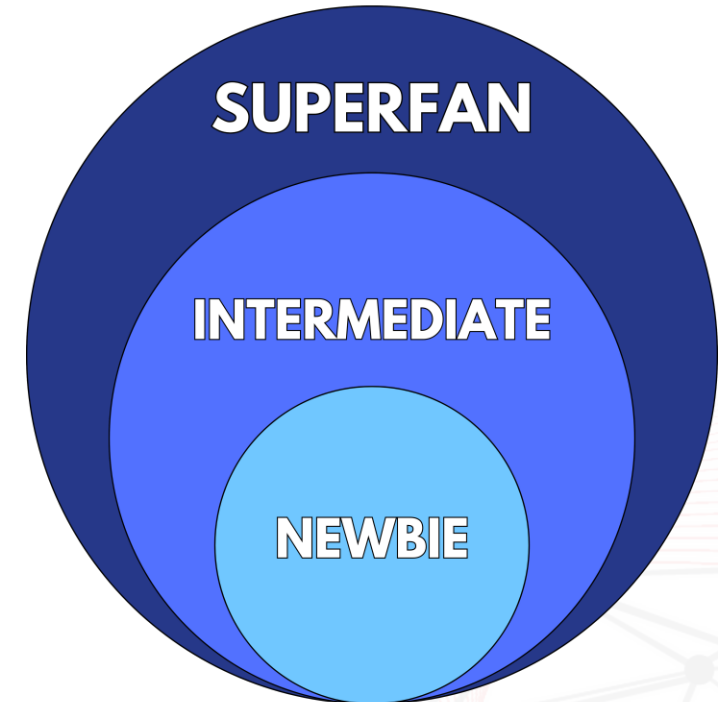
Key Steps

The analysis of key football/soccer statistics and moments used in professional highlight clips was conducted.

Three distinct user personas—Newbie, Intermediate, and Superfan—were developed, each representing different experience levels. Stats and key moments were tailored to align with the preferences of each persona.

Selection criteria were refined to address the limitations on extractable moments within a match, prioritizing the most relevant moments for each persona to enhance the personalisation of highlight clips.

The stats are designed to build on each other. **Newbie** focuses on the basics—Heartbeat, Goals, Corner kicks, Yellow cards, Fouls, and Penalties. **Intermediate** adds freekicks while still including all Newbie stats. **Superfan** covers everything from Intermediate and Newbie, adding chances for a more detailed experience. This ensures each level builds upon the previous one, enhancing engagement progressively.





User Experience: Persona Key Moments

Key Steps

For Newbies:

Focus is on high-impact moments such as **Heartbeat**, **Goal**, **Corner kicks**, **Yellow Cards**, **Fouls**, and **Penalties**.

These events provide a basic yet engaging overview of the game, keeping it simple and accessible.

For Intermediate Fans and Super Fans:

In addition to the basic moments, **Freekicks** and **Chance** are introduced to offer more tactical depth. This strikes a balance between maintaining the excitement of major events while providing a broader view of key set-pieces.

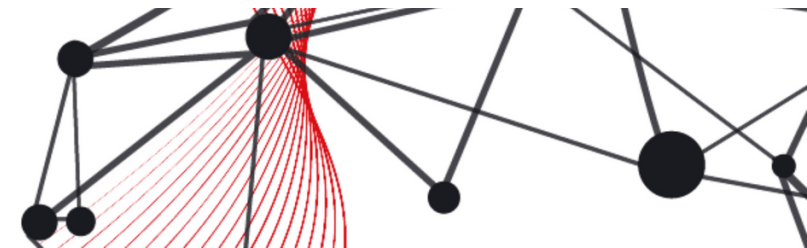
In the future, we plan to include more advanced stats such as **Possession**, **xG (Expected Goals)**, **Dribbles**, and **Interceptions** to offer more comprehensive analysis for each fan persona.

Baseline Stats For User Persona In POC

NEWBIE	INTERMEDIATE	SUPERFAN
Heartbeat	Heartbeat	Heartbeat
Goal	Goal	Goal
Cornerkick	Cornerkick	Cornerkick
Yellow Card	Yellow Card	Yellow Card
Foul	Foul	Foul
Penalty	Penalty	Penalty
	Freekick	Freekick
		Chance

Future Evolution

NEWBIE	INTERMEDIATE	SUPERFAN
Heartbeat	Possession	xG(Expected Goals)
Goal	Assists	xA(Expected Assists)
Cornerkick	Dribbles	Progressive Carries
Yellow Card	Successful Take-ons	Touches in Opp. Box
Foul	Crosses	Clean Sheets
Penalty	Headers	Volleys
	Interceptions	Pass Accuracy
	Clearences	Assists
	Fouls(Suffered)	Total Passes
	Fouls(Committed)	





IBC2024

#ACCELERATORS2024

User Experience: Laying the Foundation

Foundations

Approach

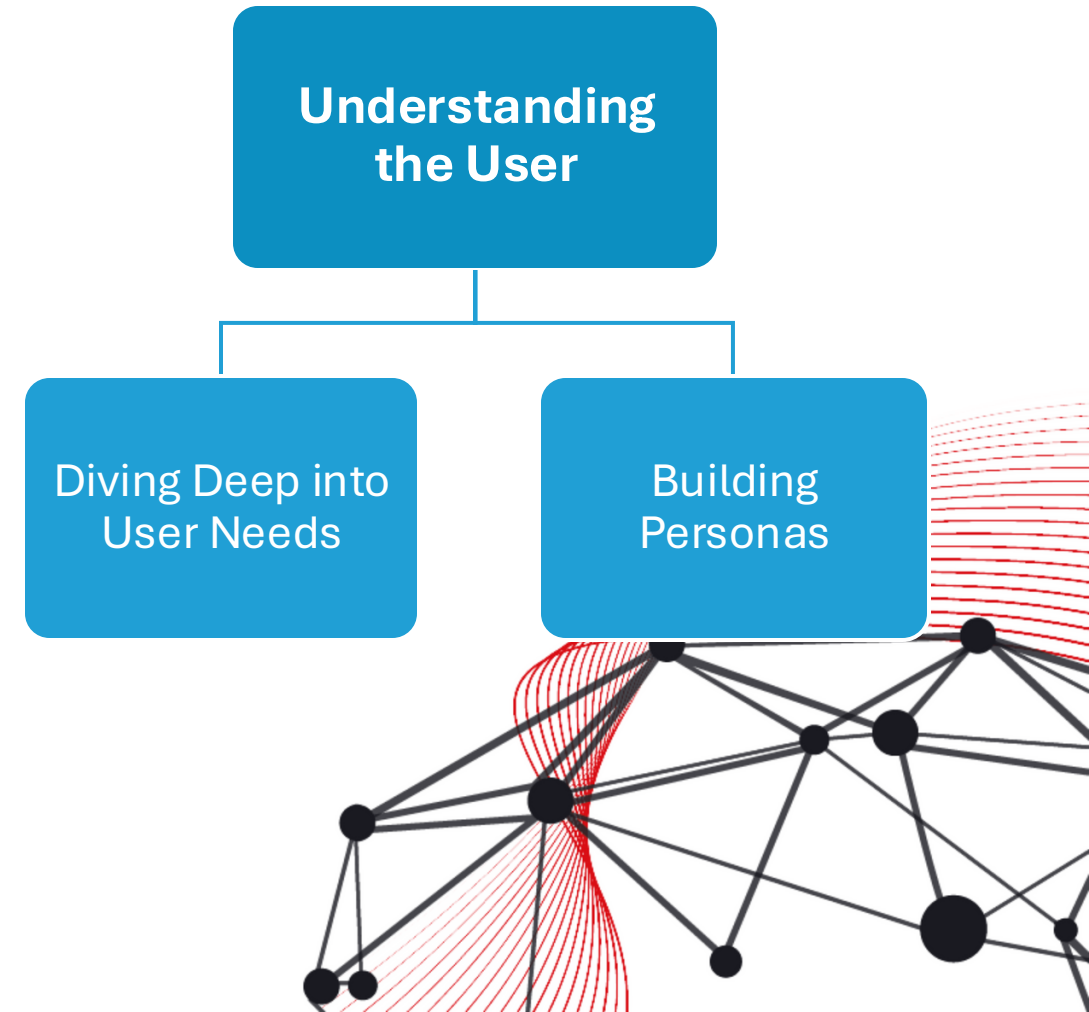
We began with extensive real-time conversations, engaging with users across the spectrum—from complete newbies to passionate superfans.

Diving for User's need

Our goal was to truly understand what each user wanted from their sports experience. We carefully documented their questions, curiosities, and the nuances of their preferences.

Building Personas

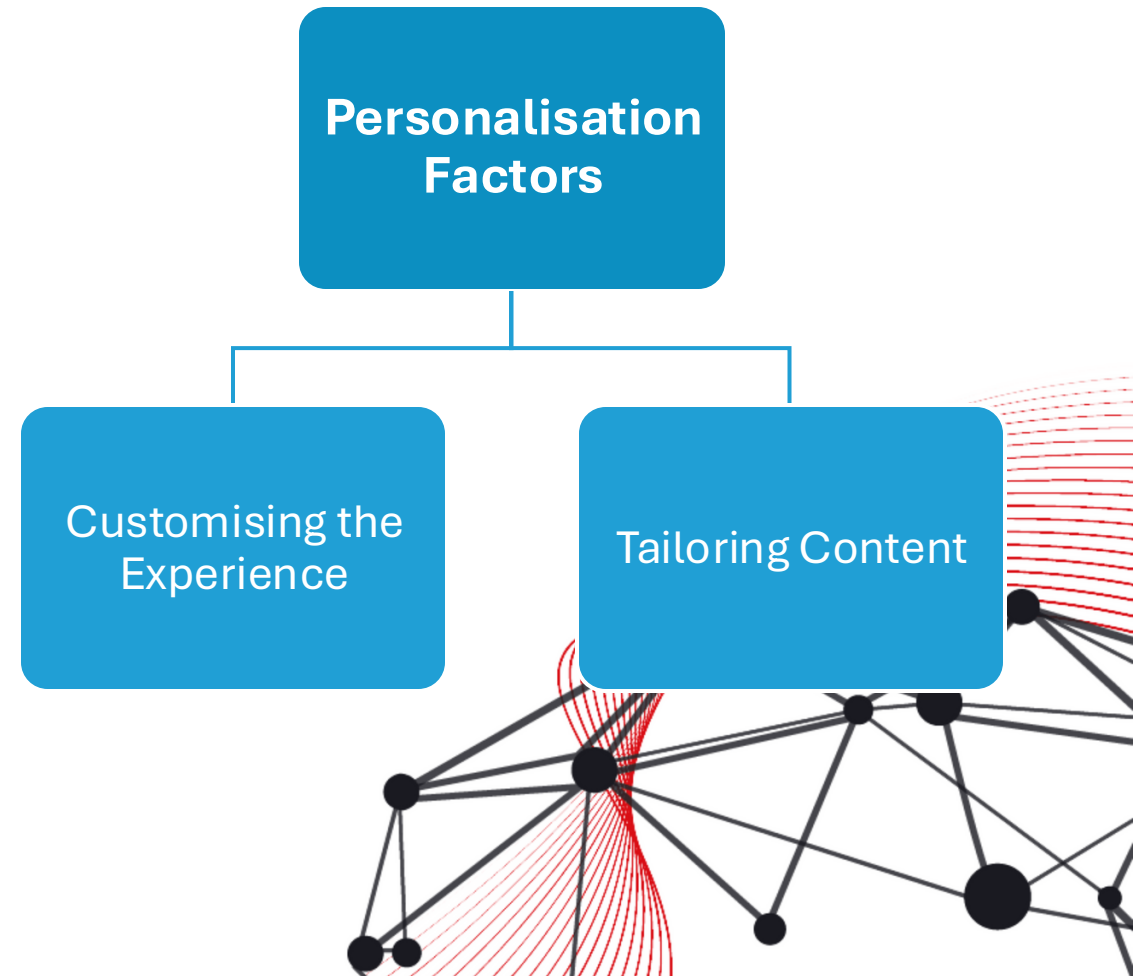
From these insights, we crafted detailed user personas, recognising that each user interacts with sports content differently. This helped us define what personalisation would mean for each type of user





User Experience: Building the Core

Core Area	Approach
Tailoring the Experience	<p>User Preferences: Whether they wanted to share their name, their favourite sports, teams, players, and even their country.</p>
Tailoring Content	<p>Key Moments: Understanding what moments in a game mattered most to them.</p> <p>On-the-Fly Reel Composition: We ensured that Aiko could dynamically stitch together highlights that reflect the user's unique preferences, providing a truly personalised video experience</p>



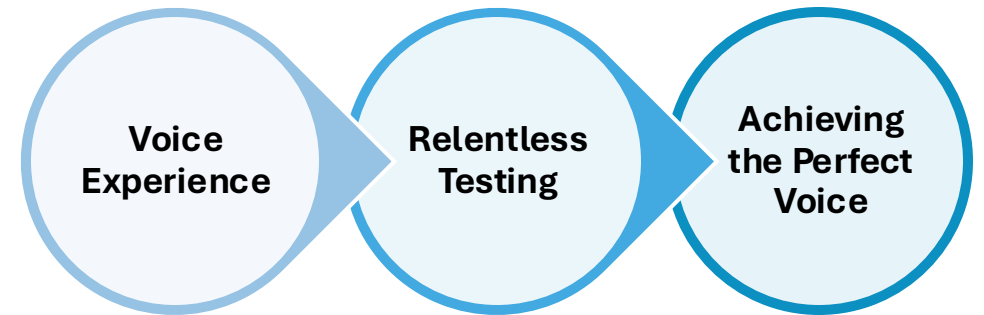


IBC2024

#ACCELERATORS2024

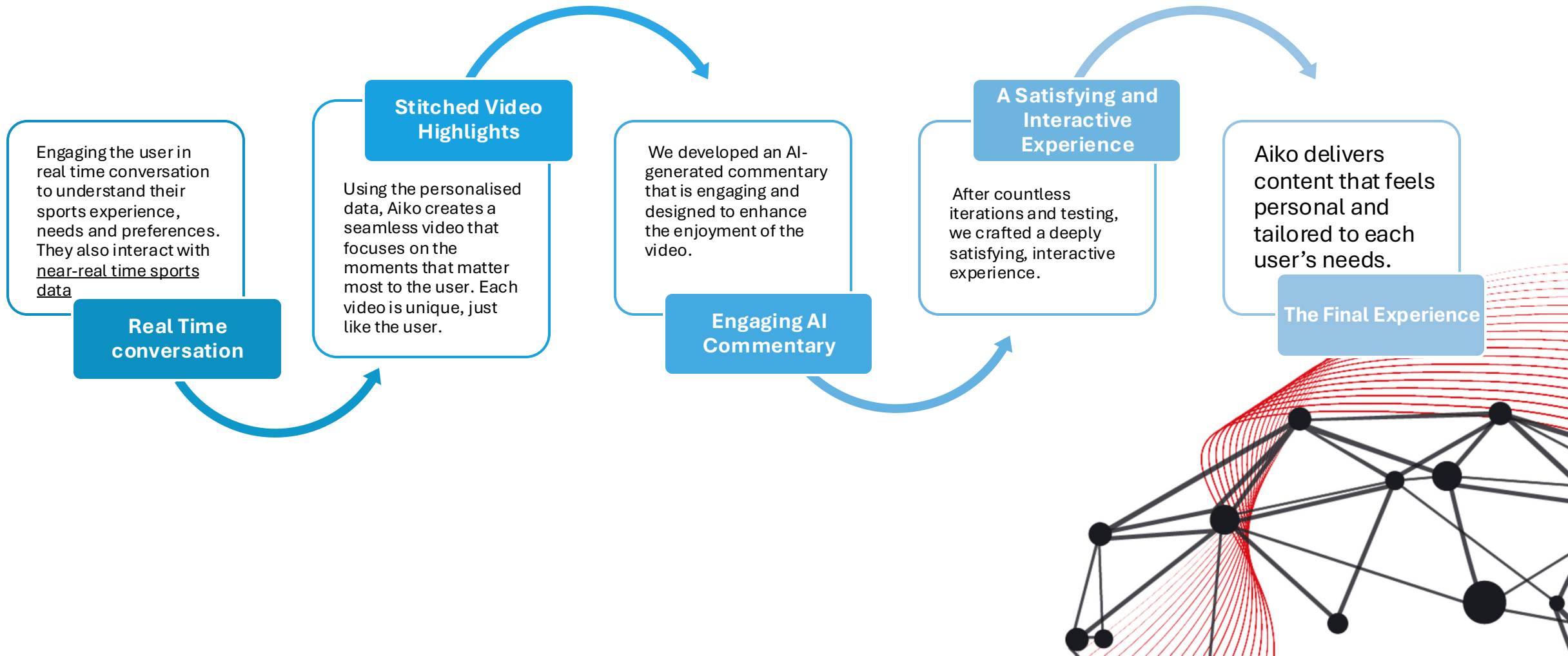
User Experience: Perfecting the Interaction

Core Area	Approach
Relentless Testing	<p>We rigorously tested various voices and tonalities, selecting those that felt most human, warm, and engaging.</p> <hr/> <p>Gender: Male and female voices with different pitch types.</p> <hr/>
Achieving the Perfect Voice	<p>Tone & Style: The goal was to create a voice interaction that not only conveyed information but also made users feel understood and engaged. Cheerful chats, casual narrations, relaxed conversations, newscast styles, and sports commentary from friendly to excited.</p> <hr/>





User Experience: Bringing it All Together





User Experience: Approach to GenAI Commentary

Gen AI Commentary Approach

Voice Selection and Tonality Testing **Exploring Voice Options:** We experimented with a variety of voices, each featuring different tonalities, to identify those that most closely resembled the qualities of an engaging sports commentator.

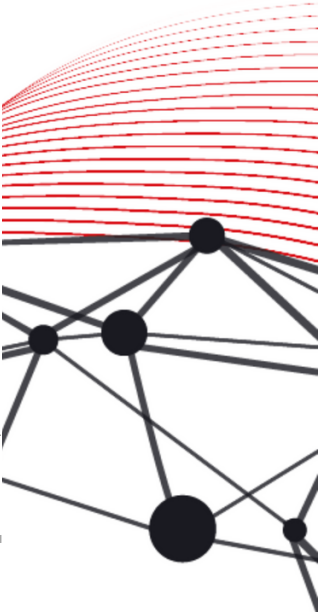
Final Selection: After thorough testing, we chose the voice that best captured the dynamic and relatable essence of a commentator, ensuring it resonated well with users.

Avoiding Repetition: We focused on limiting the frequency and length of commentary to prevent it from becoming repetitive or intrusive, maintaining a balance that keeps the user engaged without overwhelming them.

Commentary **Contextual Relevance:** The AI was trained to deliver commentary that is contextually relevant, highlighting key moments without disrupting the natural flow of the viewing experience.

Custom Code for Accuracy Enhancements: We had to create a customer logic code to improve the commentary articulation, especially around mapping Jersey numbers to the player's names and teams.

Enterprise Data Integration Enabling the AI to use RAG approach to integrate with the tournament data.



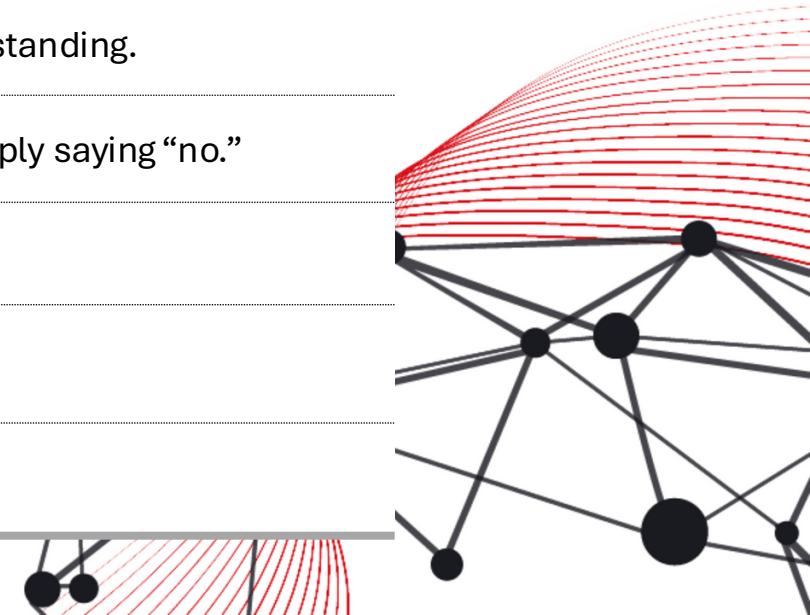


IBC2024

#ACCELERATORS2024

User Experience: Challenges

Challenge	Description
Friendly, Human-like Interaction	Making conversations feel like a chat with a friend, not a voice Bot. Designing responses that are warm, natural, and engaging.
Crafting Organic Conversations	Ensuring interactions feel natural and unscripted. Extensive testing for smooth flow and contextual understanding.
Providing Relevant Content Over Refusals	Ensuring Aiko delivers useful information instead of simply saying “no.” Guiding users to the content they seek.
Empowering the User	Ensuring the user feels in control of the interaction. Designing AI responses that follow the user’s lead.



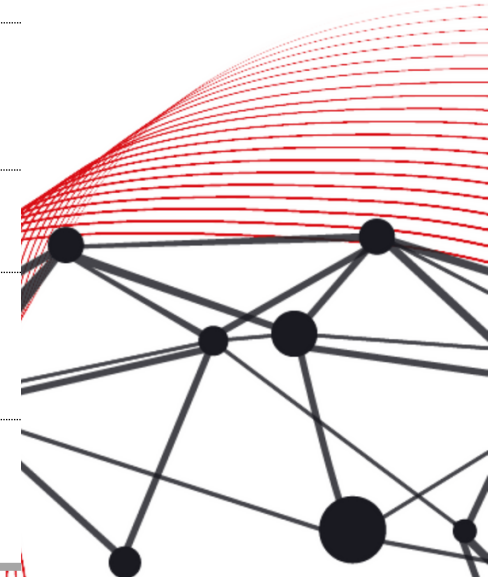


IBC2024

#ACCELERATORS2024

User Experience: Challenges (con't)

Challenge	Description
Mapping Personalisation Factors	Balancing the depth of personalization with simplicity.
	Focusing on key user preferences and significant game moments.
Conversation Consistency and Guardrails	Preventing Aiko from becoming sidetracked in conversations.
	Keeping dialogue on track while addressing user queries.
Adaptive Lingo	Adjusting language based on regional preferences (“Football “ & “Soccer”). Took a lot of research that went into the prompt engineering.
	Creating a flexible model to ensure users feel understood.
Regulatory and Copyrights Compliance	Navigating challenges related to intellectual property and obtaining game-related information.
	Ensuring compliance with legal requirements while securing comprehensive data to enhance Aiko’s performance.





IBC2024

#ACCELERATORS2024

Architecture





IBC2024

#ACCELERATORS2024

Architecture: Principles

Category	Principle
Microservices and API First	Ensures flexibility and scalability with independent AI, personalization, and media services
Scale	All the services are using PaaS or IaaS from the cloud. They're deployed as containers to enable future scale
DevSecOps	All services deployed even though in PoC are using DevSecOps mindset. They're future compatible to be strengthened with enterprise security and Dev Ops automation
Inclusivity	The product was built with keeping various cultures and its nuances in mind. All the testing was done by team members from different backgrounds, mindsets and cultural values. A lot of iterations were done to ensure the solution caters to different perspective. Especially around the Sports Companion experience.
Privacy and Transparency	The user has complete control on what can be used to create the hyper Personalisation experience.





IBC2024

#ACCELERATORS2024

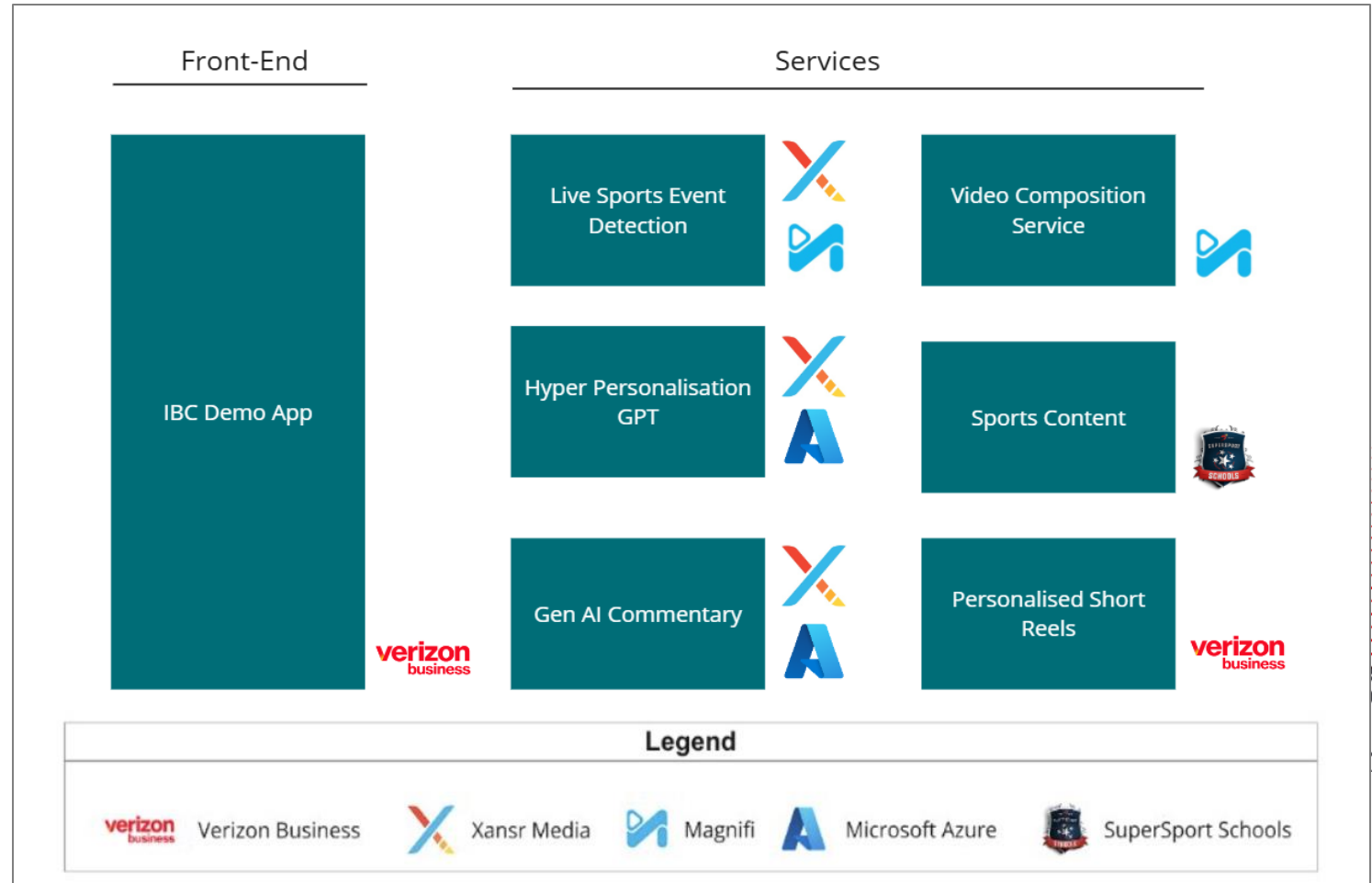
Architecture: Solution Overview

Overview

The entire solution was created using Xansr Solution called Hyper Sports aka Aiko, Magnifi and Verizon Open Cache Solution*.

Xansr Media's Aiko provides the GenAI enabled Voice Bot as Sports Companion, Hyper Personalisation and Sports Commentary from enterprise data. It takes sports data and live video stream to generate sports metadata.

Magnifi provides live sports video analytics solution. It takes video stream and generates metadata and short clips of key match events.



* Verizon Open Cache Solution was not implemented in PoC due to time and bandwidth. However, the integration analysis was done.



IBC2024

#ACCELERATORS2024

Architecture: High Level

Key Services

Personalisation Services: Manages user data and database operations.

Aiko Sports Services: Manages Generative AI, Azure Speech, and AI Search.

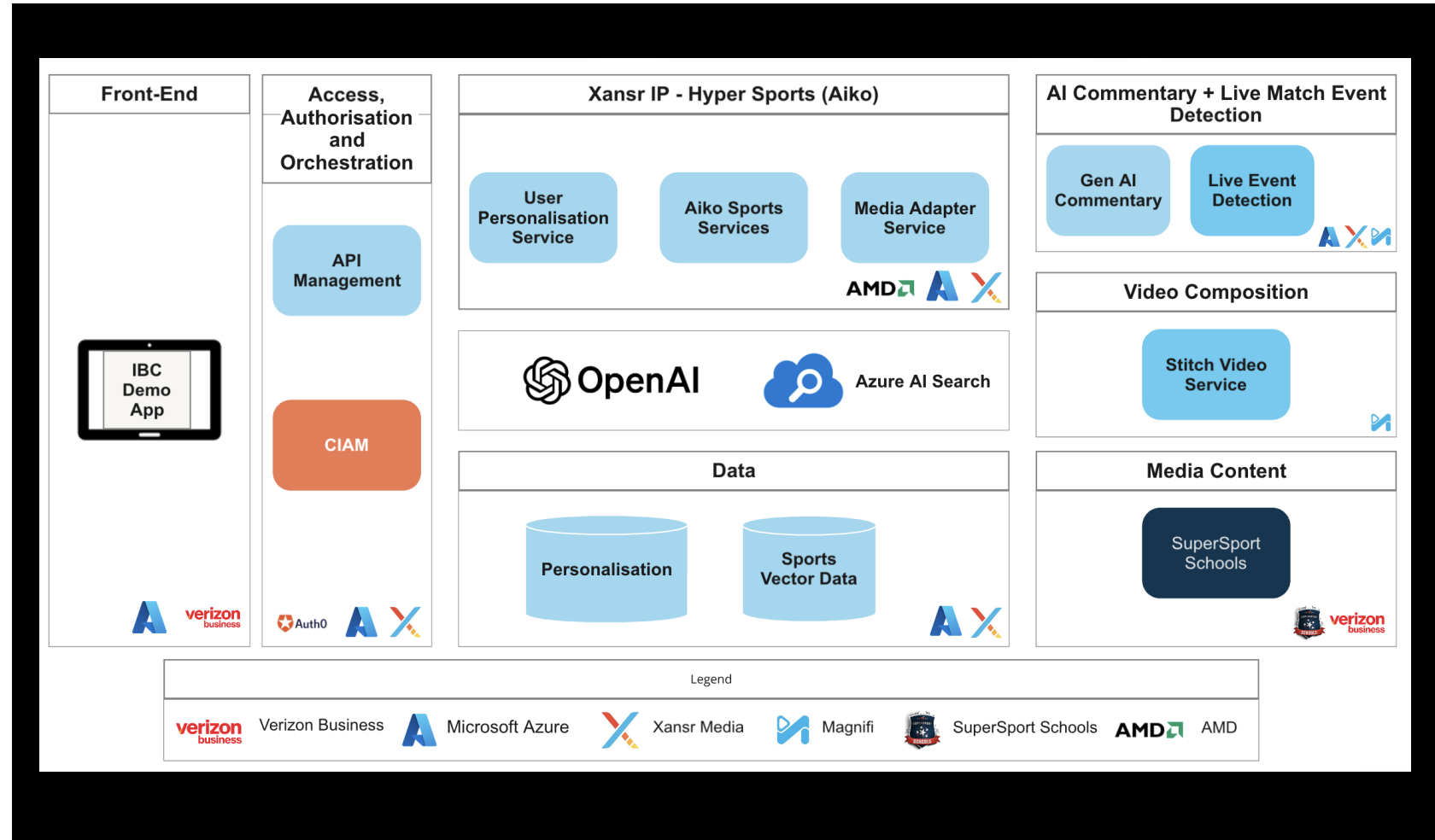
Media Adapter Services: Interfaces with media partner Magnifi and generating pre-processing metadata.

Data Source: SuperSport Schools provides sports data for tournament, live matches, teams, players, fixtures, results and the live match feed.

Live Event Detection: Magnifi pre-processes matches, creating clips. This enhanced by Aiko to produce enriched metadata and Gen AI Commentary. The metadata is pushed into Aiko.

Clip Stitching: Filtered clips from Aiko's are then stitched by Magnifi and returned to Aiko.

Commentary: Xansr Media generates AI-based commentary for highlights (not real-time). This architecture ensures efficient data handling, personalized content delivery, and enriched highlight experiences.





Architecture: Pre-processing Flow

Overview

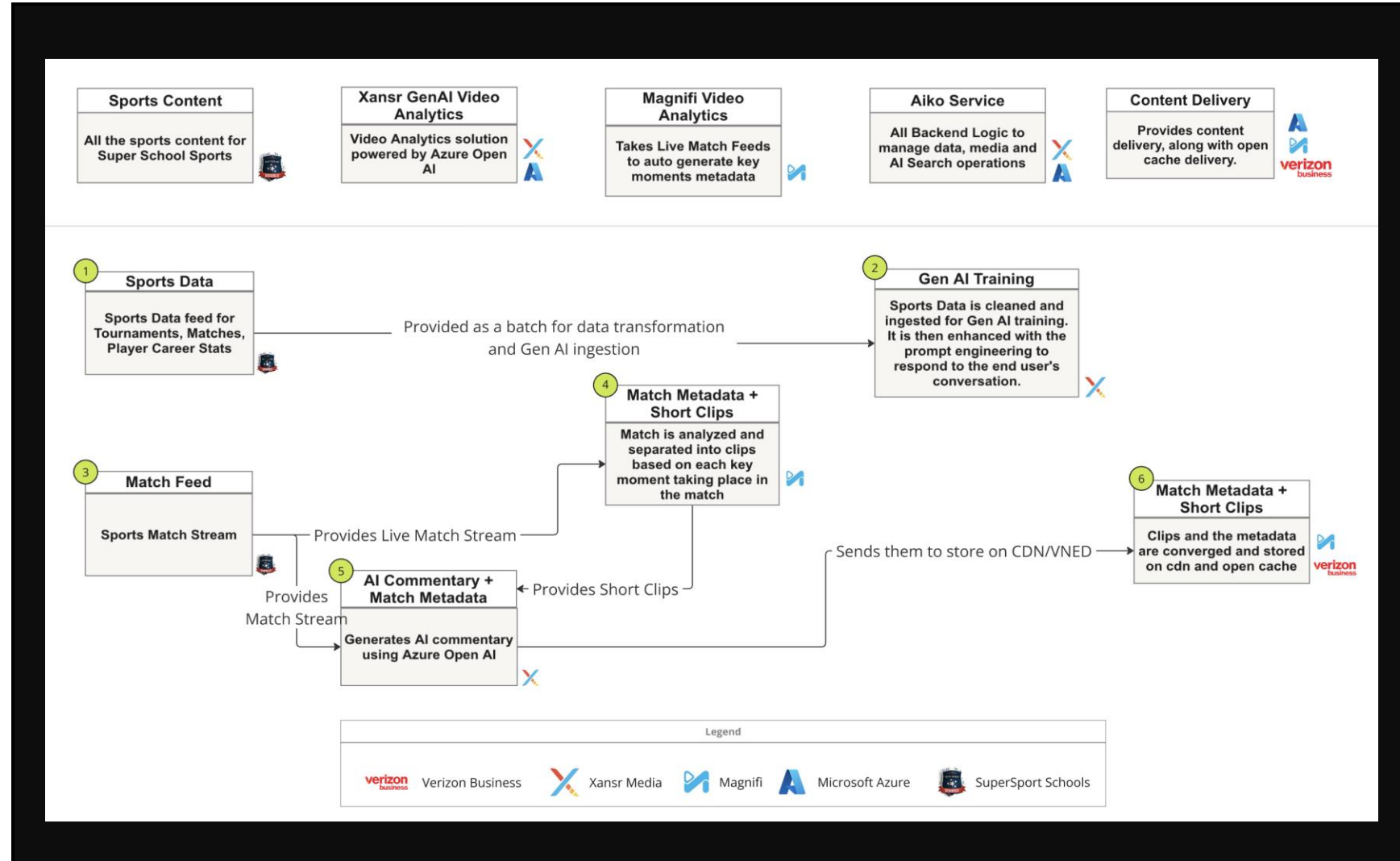
The entire solution was created using Xansr Solution called Hyper Sports aka Aiko, Magnifi and Verizon Open Cache Solution*.

The Sports data of Super School Sports are provided to Xansr's Aiko as a json feed.

Aiko transforms the data via ETL to make it Gen AI compatible. It provides the transformed data to its Sports Companion via various hybrid techniques (RAG being a key one).

Magnifi generates short clips of the key events from the live sports stream.

Aiko creates the sports metadata, Gen AI commentary from the short clips and the live sports stream to create a list of highlight reels.



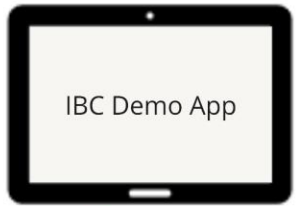


IBC2024

#ACCELERATORS2024

Architecture: Live Match Overview

Front-End



IBC Demo App



APIs - Platform as a Service

Live Event

Takes Live Match Feeds to auto generate key moments metadata



Commentary & AD

Takes a Live match feed to autogenerate the localised commentary and audio description.



Content Repository

All personalised generated clips and media assets from the live match



Hyper Personalisation

Gen AI interacts with the to create a hyper personalised persona.



Video Composition

It stitches various clips into one video feed.



Legend



Verizon Business



Xansr Media



Magnifi



Microsoft Azure



SuperSport Schools



IBC2024

Architecture: Live Match Flow

#ACCELERATORS2024

Overview

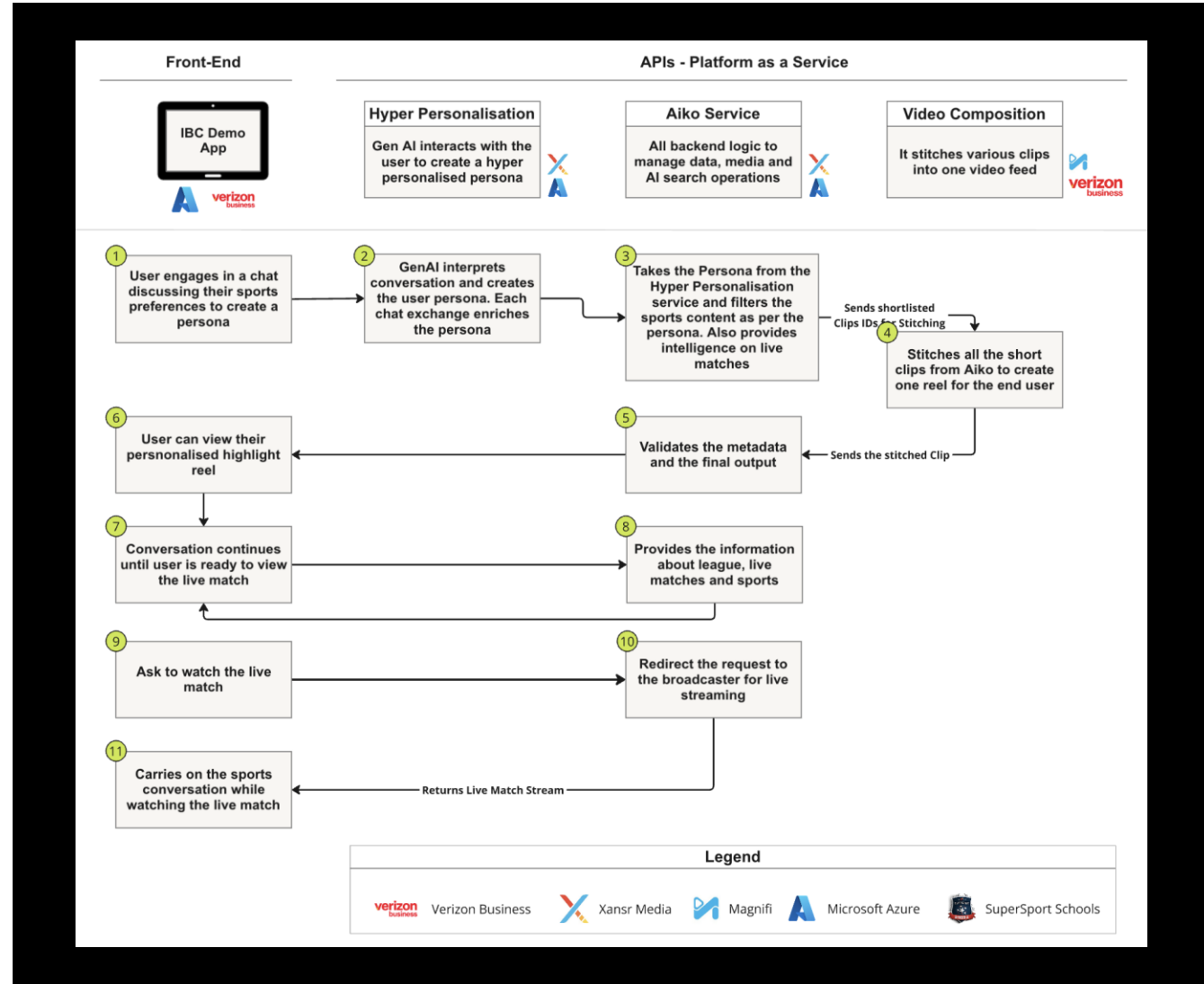
This flow assumes that the pre-processed data is in place.

The conversation occurs between the end user and Xansr's Aiko. Aiko analyses the conversation to generate the user persona and key insights. It also answers the complex questions related to sports in a human-like conversation.

Aiko then shortlists the relevant reels that the user likes by marrying the sports metadata from pre-processing flow and user conversations.

Aiko asks Magnifi to stitch the shortlisted clip into one single video with banners. Magnifi then stitches the clips and send them back to Aiko.

Aiko takes the stitched video and presents it to the end user.



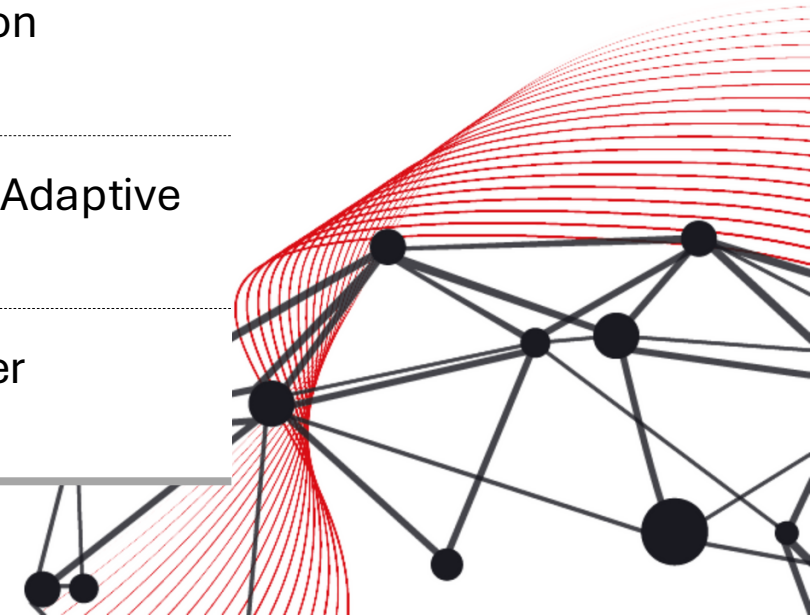


IBC2024

Lessons Learned: General

#ACCELERATORS2024

GenAI Considerations	Key Areas for AI Development
Algorithm Optimisation	AI Performance, Prompt Refinement, Data Transformation
Systematic Testing	Modular Testing, Data Structuring, Prompt Engineering
Data Quality Assurance	Contextual Accuracy, Relevance, Hallucination Prevention
Real-Time Capabilities	Real-Time AI Processing, Latency Reduction, Adaptive Responses
User-Centric Development	Continuous Feedback Loop, AI Evolution, User Retention





IBC2024

#ACCELERATORS2024

Lessons Learned: Specifics

Lessons	Details
AI Prompt & Data Cohesion	By refining AI prompts and enhancing data transformation processes, we significantly improved speed, accuracy and relevance, ensuring that users receive the best possible results.
Prompt Test Approach	Unlike lines of code, prompt lines are not easily quantifiable. Implementing modularized testing for each change is essential to effectively measure and refine outcomes.
Early Data Structure Freeze	Prompt testing requires extensive trial and error, which is less procedural than coding. Making changes to the underlying data can lead to setbacks, making it critical to finalize the data structure early in the process.
Ensuring High Data Quality	To prevent hallucinations and maintain context integrity, it's vital that all data processed by AI is meticulously filtered and structured.
Low-Latency Capabilities	To fully leverage this technology, we need to evolve to ultra low latency solution to support live match processing. AMD and Verizon's Open Cache & Edge shows promising solution to this challenge.



Custom AI Commentary

Offer tailored AI commentary based on user preferences, such as selecting between an enthusiastic commentator or a more subdued, calm one.

Personalised Viewing Modes

Develop options for users to choose their preferred viewing mode, whether they enjoy watching content alone or prefer a more interactive, shared experience.

Expanding to Multiple Sports

Broaden Aiko's capabilities to cover a wider range of sports, not limiting it to just one, to cater to diverse interests and preferences.

Integration with Other Media

Explore integration with other media platforms and content types, such as integrating live news updates, player interviews, and more to enrich the overall experience.

Live Match Commentary

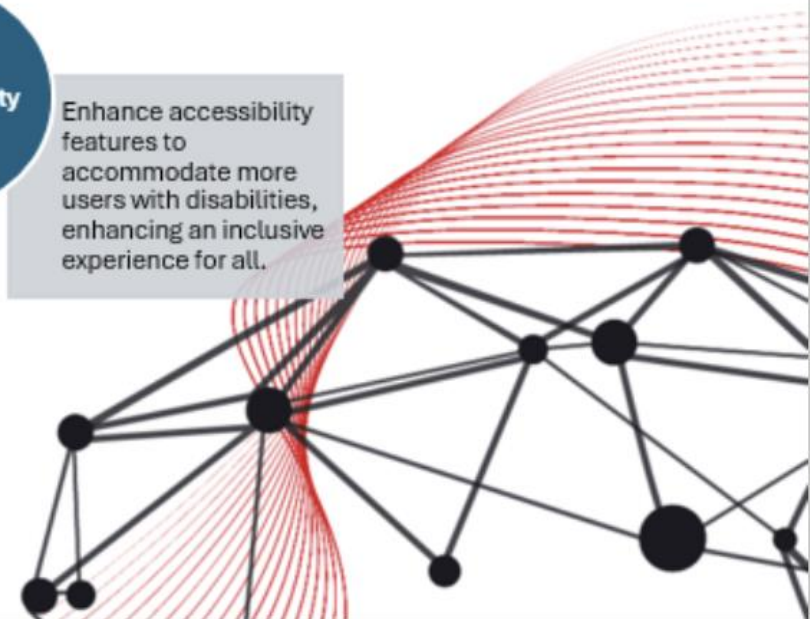
Introduce AI-driven live match commentary, providing real-time, personalised insights and reactions that enhance the live sports viewing experience.

Broader Multilingual and Regional Support

Expand multilingual capabilities and regional adaptations to offer a more inclusive experience, ensuring that users from various linguistic and cultural backgrounds feel equally catered to.

Accessibility

Enhance accessibility features to accommodate more users with disabilities, enhancing an inclusive experience for all.





IBC2024

Next Steps

#ACCELERATORS2024

Develop

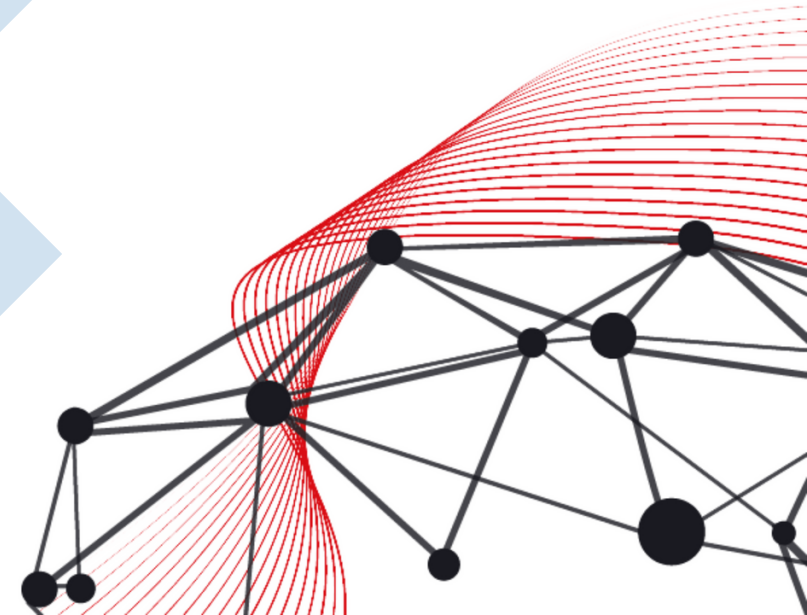
- Incorporate more layers of technology (ie. Edge compute) to deliver against more complex content, refine personas to become even more nuanced

Expand

- Create methodology for ingesting existing and new sports (ie. WFFA) to expand opportunity to other sports

Scale

- Grow the types and amount of content that can be handled (ie. Live, multiple games) and delivered, along with more nuanced ways to build profiles





IBC2024

#ACCELERATORS2024



Thank you!

