
AI LEAGUE
AI LEAGUE
دوري الذكاء الاصطناعي
by SCAI
AI-GENERATED
LIVE COMMENTARY
AI-Generated Real-Time Sports Commentary in Multiple Languages
AI Sports Voice
Strategic Sponsors
Main Sponsors
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وزارة الرياضة
Ministry of Sport
SDAIA
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Team Members

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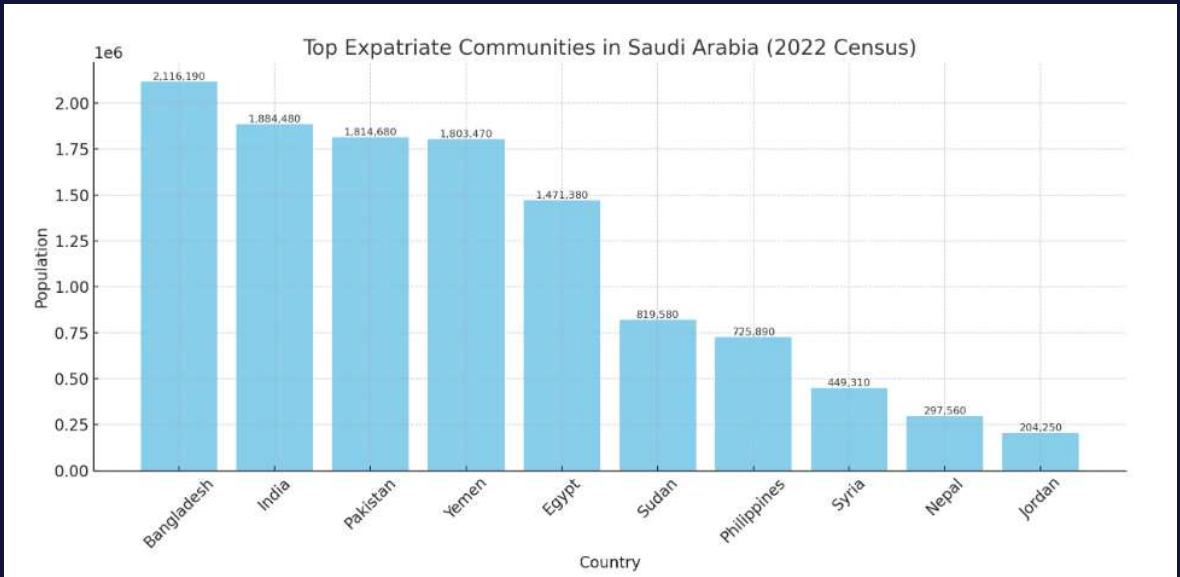
Project Overview

The AI League's strategy focuses on leveraging AI technologies to **enhance** fan experiences, **expand** global reach, and drive **innovation** in sports broadcasting. The AI-generated real-time sports commentary aligns seamlessly with this vision by:

Project Overview

According to the 2022 Saudi Arabian census, there are approximately **13.4 million foreign residents** in Saudi Arabia, making up **41.6%** of the total population of **32.2 million**.



This concept is a strong fit for Saudi Arabia's vision for the 2034 FIFA World Cup, offering a scalable approach to attract new fans, enhance engagement, and streamline broadcasting processes.

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Problem Address

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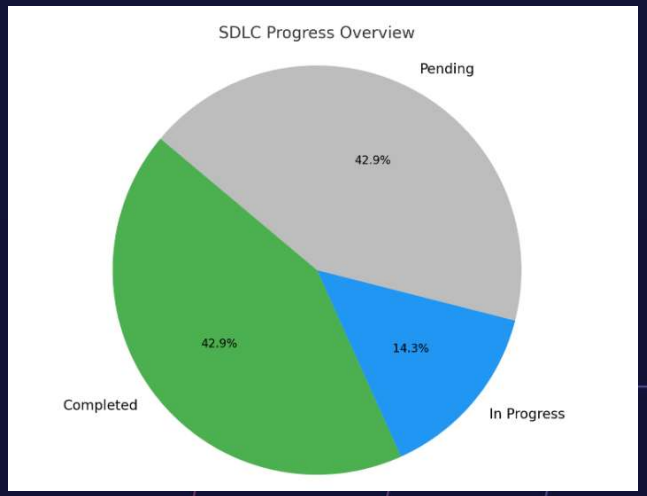
Project Timeline (SDLC)



Planning
Completed

Requirements Analysis
Completed

Design
Completed

Implementation
In Progress

Testing
Pending

Deployment
Pending

Maintenance
Pending

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Detailed Flow of AI-Generated Real-Time Sports Commentary in Multiple Languages

01

Capturing Live Sports Feed

Capture live audio feed from sports events

02

Speech-to-Text Conversion

Convert audio feed into accurate text transcription

03

Natural Language Processing

Analyze text to extract context and statistics

04

Real-Time Translation

Translate commentary into multiple languages

05

Text-to-Speech Conversion

Convert translated text into natural-sounding speech

06

Delivery to End Users

Stream multi-language audio to various platforms

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Summary of Detailed Flow

Stage	Input Example	Output Example
Speech Input Capture	Live commentary: “Goal by Messi!”	High-quality audio format
Speech-to-Text (STT)	Audio feed	“Goal by Messi!” (text)
NLP and Context Analysis	Transcribed text	“Messi scores his 25th goal this season!”
Translation (Multilingual)	English text	Spanish: “¡Gol de Messi!”
Text-to-Speech (TTS)	Translated text	Natural-sounding audio in Spanish
Delivery and Personalization	Language preference: Spanish	Live, personalized audio commentary in Spanish

AI Model Combination for Implementing Real-Time Sports Commentary in Multiple Languages

Models	Purpose	Best Model	Role
Natural Language Processing (NLP) Models	Understanding match context, extracting key information, and generating accurate and engaging commentary	**Hugging Face Transformers (BERT & GPT-2)**	Context-aware commentary generation and understanding match dynamics
		sPACy	Named Entity Recognition (NER) to identify players, teams, locations, and events during the match.
Generative AI Models	Real-time generation of engaging, context-aware, and tone-specific commentary.	**OpenAI GPT 3.5 / GPT-4**	Generates dynamic and personalized commentary with different tones (casual, analyst, fan-favorite).
		T5 (Text-to-Text Transfer Transformer)	Suitable for paraphrasing and summarizing complex match events quickly.
Real-Time Translation Models	Translate commentary into multiple languages with native-level fluency and cultural relevance.	**MarianMT (Hugging Face)**	Supports 40+ languages with high accuracy and low latency
		Google Translate API (Free Tier)	Provides broad language support and real-time API access.
Text-to-Speech (TTS) Models	Convert text-based commentary into natural, human-like speech.	**Google Text-to-Speech API**	Provides real-time, human-like voice synthesis.
		Amazon Polly	Converts commentary into speech with emotional inflection and multiple voice options.
Speech-to-Text (STT) Models	Transcribe live game feeds to text for real-time analysis and commentary generation	**Google Speech-to-Text API**	Converts live audio feeds into text with high accuracy.
		DeepSpeech (Mozilla)	Open-source STT with high accuracy for sports-specific terms.
Emotion and Sentiment Analysis Models	Adjust tone and excitement levels based on crowd reactions and match events	**BERT (Emotion Detection Fine-Tuned)**	Detects sentiments and emotional cues in fan reactions and adjusts commentary tone accordingly.
		Affectiva (Emotion AI)	Analyzes facial expressions and vocal tones from live audience feeds to gauge excitement

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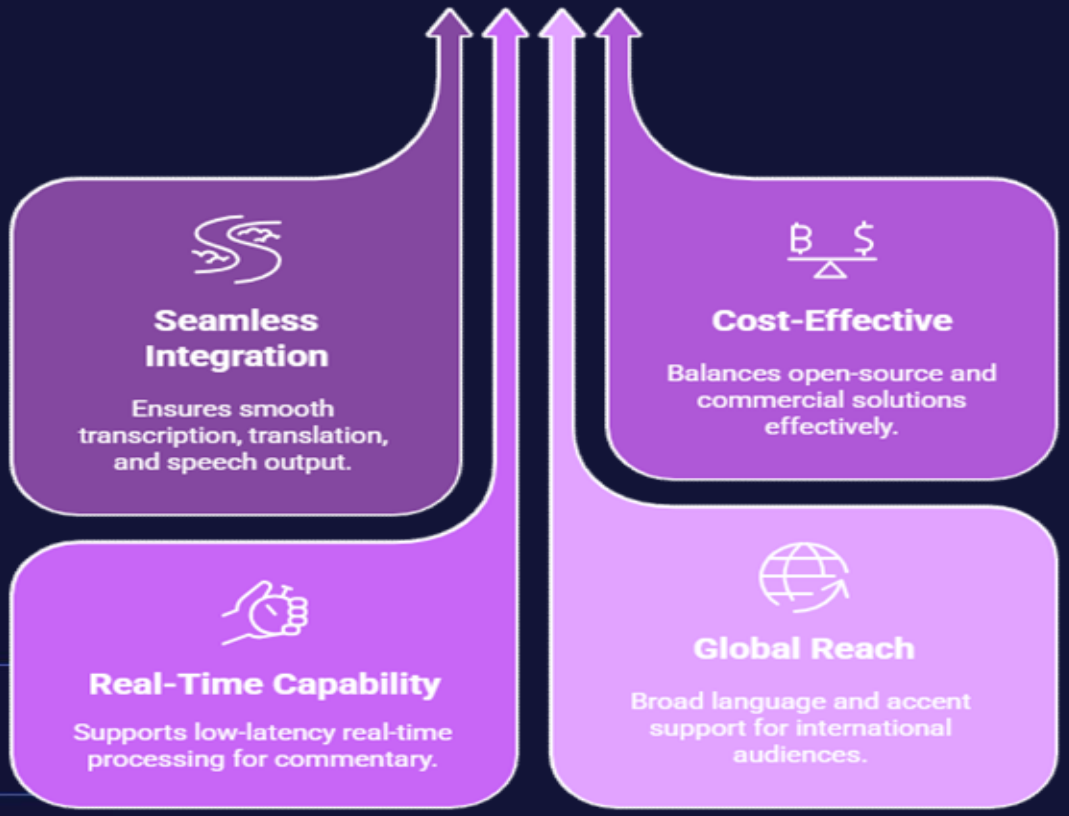
This combination offers a **robust, scalable, and cost-effective solution** for implementing the AI-generated real-time sports commentary system, ensuring **high engagement, accessibility, and operational efficiency**.



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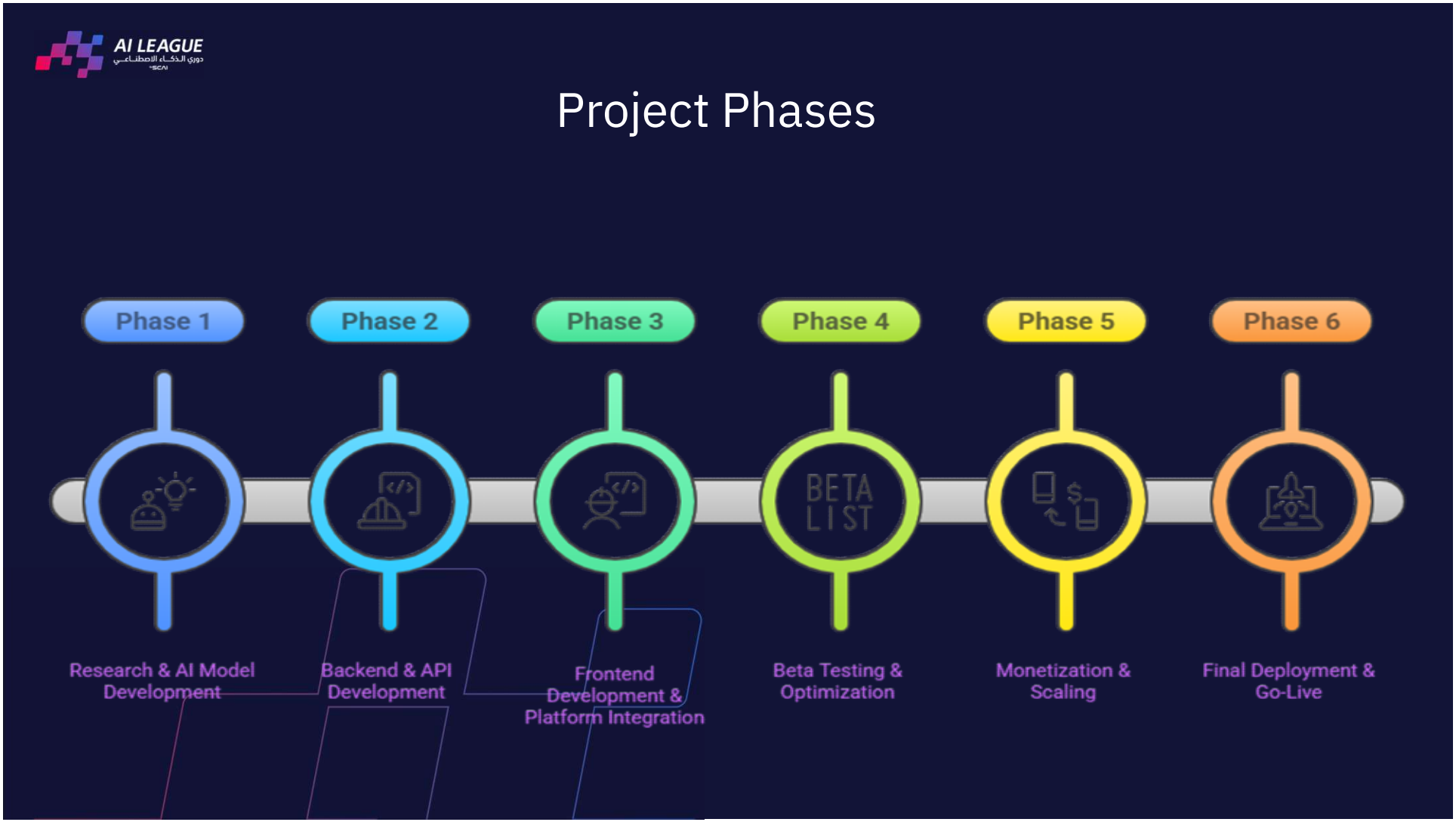
Project Phases



Budget Allocation

Human Resources

Focus on workforce development and organizational growth

Technical Development

Invest in technology and innovation to enhance capabilities

Marketing & Scaling

Expand market reach and scale operations for growth

Role	Total Duration
AI Engineers (4)	18 months
Software Developers (4)	18 months
Data Scientists (2)	18 months
DevOps Engineers (2)	12 months
QA Engineers (2)	6 months
Project Manager (1)	18 months
UI/UX Designers (2)	12 months
Marketing Team (3)	6 months

Technical Resource
Cloud Infrastructure (AWS/Google Cloud)
AI Model Training (GPU Clusters)
API & Streaming Platform Integration
DevOps & Deployment Tools
Testing & QA Environments

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Summary

AI-powered real-time multilingual sports commentary will democratize sports broadcasting, allowing fans worldwide to enjoy localized and personalized match experiences. This technology reduces production costs, increases fan engagement, and opens new monetization opportunities for broadcasters and sports leagues.

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Thank You