

JumpLens

Real-Time Dynamic Graphs, Video Overlays &
Coach Data Analysis Toolset

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Problem

No Feedback Mechanism

Coaches cannot review metrics post-attempt



SEIKO Measurement System

Sophisticated equipment only at elite level



Talent Development Barrier

Limited feedback affect talent development.



Gap in Data Access

Data is not accessible for analysis



Limited Data Analysis

No analysis is performed on data.



Engagement

Limited spectators engagement





Platform

Unified data platform,
accessed via web
browser.



Coach Toolset

For performance
review and athlete
development.



Video Analysis

Computer Vision to
understand COM
trajectory by uploading
training footage.

Solution

Data Visualization

Real-time data
analysis with
dynamic graphs and
video overlays



Hardware

Grassroots level
affordable
equipment



Infrastructures

Robust infrastructure to
enable real-time data
flow



Innovation & Impact

1

Data Visualization

Platform to view athletes' metrics

2

Real-Time Video Processing

via high performance computing resources.

3

Infrastructure

Performing data analysis on site while employing HPC.

4

Competition grade-equipment

Affordable design for club-level competitions.

5

Scalable

Method can be expanded to other fields events.

Proposed Hardware Architecture

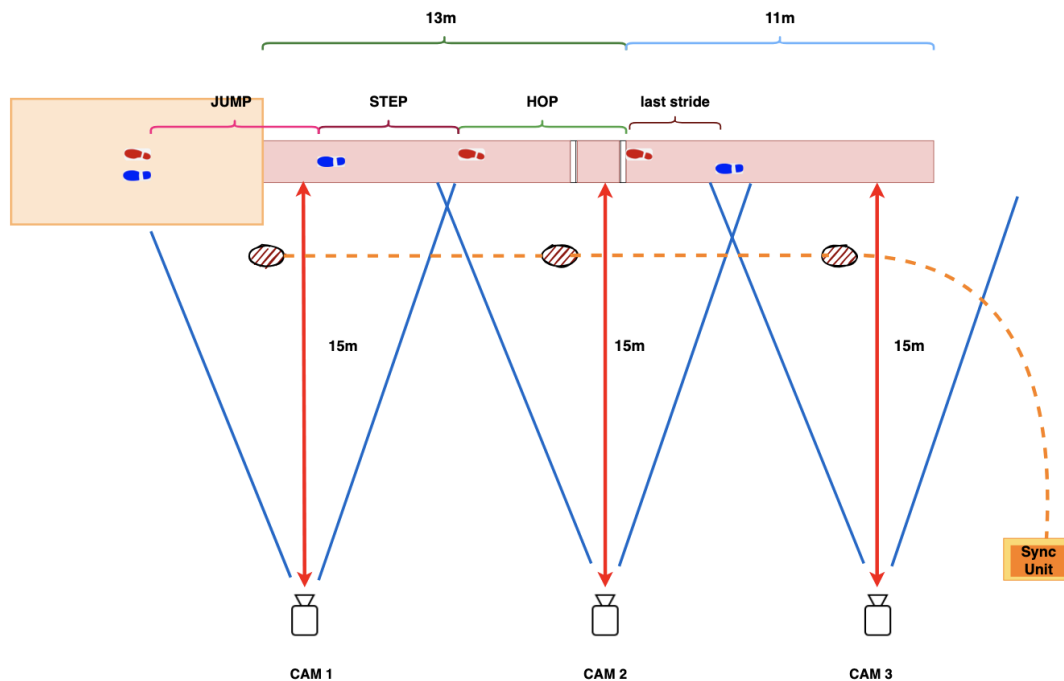


Fig 1: A modified design of the biomechanical research project by Brüggemann, G.P. & Arampatzis, 1997

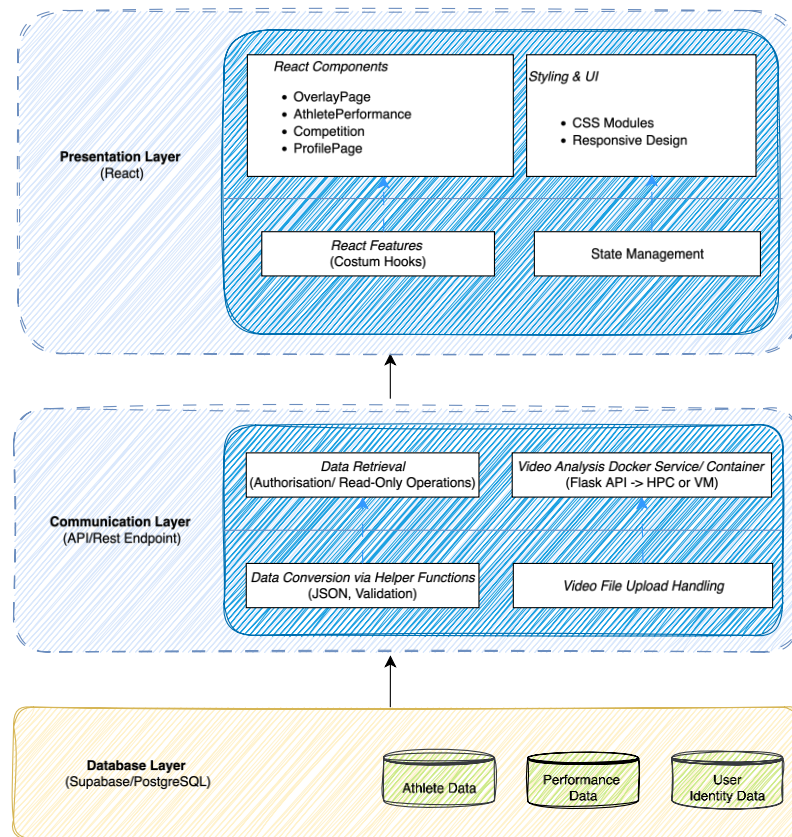


Fig 2: Software architecture diagram.

