Project Abstract • [A black background with a black square

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**OBJECTIVE**

Determine the feasibility to develop a mobile application for real time ball tracking and the display of analytical data for LBW [DRS] detection or self-evaluation through device camera for grassroots Cricket enthusiasts.

**A person holding a cellphone with a cricket game on it

Description automatically generated A diagram of a cricket player

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Real-time ball tracking using the device camera. LBW detection using (DRS) principles. Analytical data display (speed, trajectory, angle)

**DEVELOPMENT**

Goal is to demonstrate the development roadmap to build an application that can accurately track the ball's trajectory and offer users valuable performance insights and real-time feedback. This involves selection of technology stack and development environment to implementing computer vision algorithms. Some of the steps are:

* Set up node.js for data processing and storage and SQLite for storing user data.
* Include the integration of OpenCV for object detection and tracking.
* Performance metrics calculations such as ball speed, trajectory angle, and impact location.
* Ball trajectory and impact analysis to determine if the ball's predicted trajectory would hit the stumps.
* Train a ML model or use a pre trained ML models to detect the cricket ball in video frames and deploy TensorFlow Lite for on-device machine learning capabilities.
* Optimize code for performance accuracy, battery, and resource efficiency.

In conclusion, this report is to a carry comprehensive feasibility study with market research, financial estimate, and technological feasibility to develop a sophisticated mobile application for real-time ball tracking.