Tracking YouTube Video Watch Duration in Mobile App

Overview

To track how long a user watches a YouTube video inside a mobile app, you must embed the video using the YouTube IFrame Player API. This allows capturing video play, pause, and duration events. Tracking is not possible if the video opens in the YouTube app or a regular browser window.

Key Scenarios

Condition	Watch Duration Trackable	Method
Embedded with IFrame	Yes ✅	Use IFrame API and events
Opens in YouTube App	No ❌	Not possible
Opens in Browser (Not Embedded)	No ❌	No access to video events

Using YouTube IFrame Player API

Embed the YouTube video using IFrame and add event listeners for play, pause, and end. Track duration watched by capturing timestamps.

Basic HTML + JS Example:

```
<script src="https://www.youtube.com/iframe_api"></script>
<div id="player"></div>
<script>
 var player, startTime;
 var watchedTime = 0;
 function onYouTubeIframeAPIReady() {
  player = new YT.Player('player', {
   height: '360',
   width: '640',
   videoId: 'VIDEO_ID',
   events: { 'onStateChange': onPlayerStateChange }
  });
 }
```

```
  function onPlayerStateChange(event) {
   if (event.data == YT.PlayerState.PLAYING) {
     startTime = new Date().getTime();
   } else if (event.data == YT.PlayerState.PAUSED || event.data == YT.PlayerState.ENDED) {
     if (startTime) {
      let endTime = new Date().getTime();
      watchedTime += (endTime - startTime) / 1000;
      console.log("Watched duration: " + watchedTime + " seconds");
      startTime = null;
     }
   }
  }
</script>
```

Platform-Specific Notes

1. Android (WebView)

Use WebView to load HTML containing the IFrame player. Enable JavaScript in WebView and interface with JavaScript to send duration data to Android side.

2. iOS (WKWebView)

Load the same IFrame code in WKWebView. Use message handlers to send events from JavaScript to Swift/Objective-C.

3. React Native / Flutter

Use WebView component (react-native-webview or flutter_webview_plugin). Inject the IFrame code and capture messages/events from WebView to native side.

Conclusion

Use embedded IFrame and track watch time via JavaScript. Ensure video does not redirect to YouTube app.