

METHOD AND SYSTEM FOR DETERMINING REAL TIME STATUS OF AN EVENT

FIELD OF THE INVENTION

[0001] The present invention relates generally to transmission and communication of data to plurality of user devices and more particularly method and system for determining real time status of an event.

BACKGROUND OF THE INVENTION

[0002] Nowadays, any event is broadcasted as live telecast and user can access these live coverages of any events, political, sports, news as a television or radio program, internet feed, and through other broadcasting medium. Sports are one such events which are organized events which are held usually within a day or hours and often extended for multiple days in case of tournaments, championships. The sport events feature competition between individuals or athletes, representing one or more teams, groups, from one or more city, county, district, state, country and may also be played at national and international levels. Plurality of sports events may occur and performed simultaneously on the same time in a day, where the contestants compete with each other. Each sport has own set of rules and standards, governed by federations, leagues, and councils of throughout the world. Further, sports are a platform to demonstrate the performance without affecting the spirit of the game.

[0003] Organizers of event (for example, sports federations) and broadcasting partners enter into one or more agreements to broadcast the sport event as a live event or recorded event to the user/subscriber/viewer, over and as a television or radio program, news, internet feed, and other broadcasting mediums. This live feed of sport event, for example video feed of a sporting event is captured and recorded by the digital video capturing equipment such as cameras, microphones, operated, placed and arranged and composed by the organizers, at the event location or a virtual location. Further a commentary for event is also included to a video feed in order to provide greater understanding of the ongoing event, to the users/viewers. These entire data is stored in an event database and a server which are either controlled by the organizers and/or broadcasting partners. Broadcasters receive raw data from event organizers and include new features to the content by means of broadcasting software wherein which offer a wide range of functionality, including source switching, simulcasting, adding graphic overlays, editing streams in real-time, and even encoding. Various news channels, sports channels, internet websites, FM radio, may render these live sport data stored in the event database from the broadcaster, by paying subscription, on one time basis, view basis etc.

Further, users can able to view the live streaming of sport event, as a video, audio or as a commentary in the broadcaster channel or website, or any other subscribed medium. The third-party service provider renders the sport data from the broadcaster in access with the event database, as event basis, or tournament basis or match basis or duration basis. For example, the subscribers have access to sport related data which is being broadcasted by the event organizer and broadcaster. In conventional system, subscriber is provided with all data which is being pushed from event server and event database. And, pulling of all data from event database and server, at regular intervals, where a request to pull data from the event server is provided by one or more intermediary server. In IoT environment, a mobile device configured with a mobile application may display the event data for example live sport, whereas, there is a limitation when the data is provided to a connected smart wearable device. The mobile application cannot able to send all data to the smart wearable device, since the operating network bandwidth between mobile device and smart wearable device is very small and predominantly operate in BL and BLE networking standards.

[0004] Hence, there is a need and requirement to effectively receive the event data from the event database and server without causing latency, traffic and congestion. The following paragraphs provide a novel method to organize and receive the event data at regular intervals without affecting status of ongoing event at the mobile device and the smart wearable device.

SUMMARY OF THE INVENTION

[0005] In one aspect of the present invention, a method of receiving activity data from an external server to the application server, the method comprising, monitoring at least one event from the plurality of ongoing events at the application server, identifying at least one crucial activity from the plurality of crucial activities at the application server, initiating at least one trigger from the plurality of triggers at the application server, when the first crucial activity is achieved, wherein, subject first trigger initiates an API call to pull the activity data relating the subject event from the external server, at a first frequency rate and receiving the activity data of subject event at the first frequency rate, at the application server from the external server, wherein the first frequency rate is every 15 seconds. In an embodiment, the activity data of the event is received by the application server through a pull mechanism, initiated in response to the API call.

BRIEF DESCRIPTION OF DRAWINGS

[0006] FIG. 1 is a first example flowchart illustrating the manner in which the activity data and updates received from the external server are received by the mobile device, through the application server.

[0007] FIG. 2 is a second example flowchart illustrating the manner in which the activity data and updates received from the external server are received by the mobile device, through the application server.

[0008] FIG. 3 is an example system 300 to monitor an event by the application server in an embodiment of the present invention.

DETAILED DESCRIPTION

[0009] FIG. 1 is a first example flowchart illustrating the manner in which the activity data and updates from the external server are received by the mobile device, through the application server. The external database stores all data relating to the activity or any event, and are transmitted to the application server through the external server.

[0010] As shown there, in step 110, the application server may monitor the subject event and its activity data through the API call which is being processed through the external server. The monitoring of application server involves to check and update any event related activities or updates to the user. The API call is made between the mobile device (a mobile application), application server and the external server and operates as a pull mechanism from the application server. In other words, through suitable APIs the event data is pulled by the application server from the external server/database. In an embodiment, the application server may trigger the action of pulling the data at a particular instance, which may be periodic such as, every 1 minute the activity data from external server is pulled by the application server.

[0011] In step 120, the application server may create and set at least one trigger to pull the data for first frequency rate. The frequency rate is the duration in which pull operation to be performed. In another embodiment, the frequency rate is the time interval or duration between the at least two pull operation. This frequency rate is basically set by the application server and accepted by the external server whenever the pull operation is configured between application and external server. The duration between the each pull operation for every event is automatically set by the application server. In step 130, the application server may receive the activity data at the specific time interval from the external server/database. The data received at the application server is shared with the mobile application (mobile device) of the user, at a regular time interval internally configured by the application server.

[0012] FIG. 2 is a second example flowchart illustrating the manner in which the activity data and updates obtained from the external server are received by the mobile device, through the application server. As shown there, in step 205, the application server may monitor the subject event and its activity data through the API call which is being processed through the external server. The monitoring of application server involves to check and update any event related

activities or updates to the user. The API call is made between the application server and the external server and operates as a pull mechanism from the application server. In other words, through suitable APIs the event data is pulled by the application server from the external server/database. In an embodiment, the application server may trigger the action of pulling the data at a particular instance, which may be periodic such as, every 1 minute the activity data from external server is pulled by the application server. In an embodiment, the API call from application server to the external server may be performed at the time when any crucial aspect event is carried out or performed or to be performed and such activity data is updated in the external database/server, rather than automatically calling every 1 minute.

[0013] For example, in a IPL cricket sport event, crucial activity is performance of both batting and bowling teams in a last five over, where the viewers/fans may be more concerned about the final overs, which further determines the final score of the ongoing match event. In an embodiment, the application server may set plurality of crucial event checkpoints wherein which the frequent API calls is only performed only at that time, which reduces traffic, congestion and handling of data during other time, and enables smooth transmission data from external server to the application server. The application server may also serve required notifications to the user, immediately, when the crucial activity is being performed or after completion, time to time.

[0014] In step 210, the application server checks whether first crucial activity is performed. If the first crucial activity is performed, the control is transferred to step 215, otherwise, the control is transferred to step 225. In step 215, the application server may initiate the trigger to pull the activity data from the external server/database at first frequency rate. The first frequency rate is 15 seconds. In step 220, the application server may receive the activity data from external server/database every 15 seconds, till the application server terminate pull operation at the first frequency rate. The application server may execute one or more instructions to terminate or to reinitiate the API call operation. In an embodiment, the pull operation is automatically or manually terminated when the event is completed and all requested data relating to the subject event is transferred from the external server to the application server.

[0015] In step 225, the application server checks whether second crucial activity is performed. If the second crucial activity is performed, the control is transferred to step 230, otherwise, the control is transferred to step 240. In step 230, the application server may initiate the trigger to pull the activity data from the external server/database at second frequency rate. The second frequency rate is 25 seconds. In step 235, the application server may receive the activity data

from external server/database every 25 seconds, till the application server terminate pull operation at the second frequency rate.

[0016] In step 240, the application server checks whether third crucial activity is performed. If the third crucial activity is performed, the control is transferred to step 245, otherwise, the control is transferred to step 255. In step 245, the application server may initiate the trigger to pull the activity data from the external server/database at third frequency rate. The third frequency rate is 35 seconds. In step 250, the application server may receive the activity data from external server/database every 35 seconds, till the application server terminate pull operation at the third frequency rate.

[0017] In step 255, the application server checks whether fourth crucial activity is performed. If the fourth crucial activity is performed, the control is transferred to step 260, otherwise, the control is transferred to step 270. In step 260, the application server may initiate the trigger to pull the activity data from the external server/database at fourth frequency rate. The fourth frequency rate is 45 seconds. In step 265, the application server may receive the activity data from external server/database every 45 seconds, till the application server terminate pull operation at the fourth frequency rate. In step 270, the application server may initiate the trigger to pull the activity data from the external server/database at fifth frequency rate. In step 275, the application server may receive the activity data from external server/database every 55 seconds, till the application server terminate pull operation at the fourth frequency rate. In an embodiment of the present invention, the application server may configure and set one or more frequency rates (duration between first and second pull operation).

[0018] For example, in the cricket event and match between two teams, the first frequency rate (15 seconds) may be set during start and end of match (i.e first and last 5 overs), since these are power overs, where the runs are scored at a faster rate by the batting team and bowling team also will be very keen on taking key wickets, so every 15 second pull operation should be made to update the user in real time who wants to know the score. And, the second frequency rate may be set by the application server between 6th over to 15th over of the match, where, the play becomes bit slow, compare to the first and last 5 overs and hence pull operation may be performed every 25 seconds. In one example, the application server automatically set first frequency rate for the first and last 5 overs of the match and second frequency rate for the remaining overs. In an embodiment, the transition of pull operation between first and second frequency at the end of 5th over and 15th over is automatically set and configured by the application server, which may be carried out smoothly, thereby reducing the load at the

application server, data traffic, limiting congestion during the transmission of data from external server to the application server.

[0019] FIG. 3 is an example system 300 to monitor an event by the application server in an embodiment of the present invention. The system is shown comprising, a smart wearable device 310, a mobile device 320, a first network 330, an application server 340, a database 350, a second network 360, an external server 370 and an external database 380. The smart wearable device 310 is a wearable configured with one or more sensors to monitor user activity which records data relating to user such as steps, activity, heart rate, sleep etc.

[0020] The smart wearable device 310 is connected and paired with the at least one mobile device 320, to share the sensor data. A mobile application is configured in the mobile device 320 to interact and communicate with the smart wearable device. The mobile device 320 is connected with the application server 340 through first network 330. The mobile application of mobile device 320 is connected with the application server 340. The application server 340 is capable of receiving plurality of sensor data from the user's smart wearable device 310 through the mobile application and processes the data and store them in the database 350. Also, the application server 340 also manages and handles one or more event related information which are external to the system and may send important notifications to the user.

[0021] A database 350 is connected with the application server 340 which stores user data, activity data, all sensor data, event data, event pre configurations and preferences made by the user etc. The application server 340 communicates with one or more external servers 370 through the second network 360 to obtain original event occurrence data. The event relates to sports, stock market, news, entertainment, health etc, which may involve continuous updating of data. In an embodiment, the application server 340 is connected with at least one external server (a third-party server) 370 to receive the event data and event activity data or updates. Further, the external server 370 is connected with an external database (a third-party database) 380 wherein which stores all data related to the one or more events.

[0022] An event is a set of one or more activities which is planned, hosted, telecasted, rendered by the organizing committee or organizer. During any course of the event, the one or more updates relating to the subject event is shared by the organizing committee and updated in the organizer's server or broadcaster server (external server 370) and external database.

[0023] For example, the event is a cricket match between India and England. Official broadcasting entity provide all information relating to such event and is being telecasted. The official broadcasting entity include match organizers (like ICC, BCCI) and television partners who broadcast the match live, through TV channels, or through any of their official streaming

platforms such as star sports, ESPN etc. The match details include, type of match (international, national), type of variance (one day, t20, test match, IPL match), type of championship (world cup, champions league), list of participating teams (country wise, or league wise), list of players (country wise, league wise, batsman, bowler, allrounder, wicket keeper, Captain, Vice-captain) of each participating teams, details of umpire, environmental conditions at the match location, pitch details, stadium details etc. while in ongoing match, the match details include type of match, toss details (team that won the toss), team toss decisions, umpires, list of confirmed batsman, bowlers, allrounders, powerplay details, breaks in matches, different camera angles which capture the match, players' order, head to head, wickets taken and its kind, overs bowled, winner and runner details, prize, man of the match, man of the series, performance rate of each player (strike rate, bowler economy), extras, total score, score number in 1's, 2's, 3's, 4's, 5's and 6's.

[0024] The organizer and broadcaster may record all data relating to the subject cricket match. These recorded data may be in the format of letter characters, numerals, images, videos, voice recording, commentary etc. These recorded data is processed by the external server and appropriately stored in the external database. The application server receives such information from the external server.

[0025] In one aspect of the present invention, a method of receiving an activity data from an external server to the application server, the method comprising, monitoring at least one event from the plurality of ongoing or live events by the application server. Identifying, at least one crucial activity from plurality of crucial activities at the application server, wherein, the ongoing or live events data are stored in the external server, where the application server is capable of obtaining information from the external server in time to time. Initiating at least one trigger from plurality of triggers at the application server, when the first crucial activity is achieved or reached, wherein, subject first trigger is initiated by means of an API call to pull the activity data relating the subject event from the external server, at a first frequency rate and receiving the activity data of subject event at the application server at the first frequency rate from the external server. In an embodiment, the first frequency rate is every 15 seconds, in other words, the application server pulls the event data from the external server every 15 seconds or a regular interval of 15 seconds. In another embodiment, the activity data of the event is received by the application server through a pull mechanism, initiated in response to the API call. In yet another embodiment, the application server may also initiate a second, a third, a fourth and a fifth trigger from the plurality of triggers, set for the second, the third, the fourth and the fifth crucial activity from the plurality of crucial events, is achieved, wherein,

subject second, third, fourth and fifth trigger initiates an API call to pull the activity data relating the subject event from the external server, at a second, third, fourth and fifth frequency rate, respectively. In an example, the second, third, fourth and fifth frequency rate is at least one of, 25 seconds, 35 seconds, 45 seconds and 55 seconds.

[0026] In another aspect of the present invention, the external server determines the real time status of the event and update the subject activity data accordingly in the event database, where the updated real time activity data is received by the application server, when the request initiated to pull the data, by the application server is processed at the external server. Further, application server configures at least one or more frequency rates or frequency in which pull operation to be performed. In an embodiment, the application server may predominantly set the frequency rate by the application server based on at least one of type, duration, current stimulation of subject sport event. In another embodiment, the application server may automatically set, the at least one or more frequency rates, based on at least one of type, duration, current stimulation of subject sport event. In one example, the event is a sport event, duration of sport event is 4 hours 10 minutes and a first frequency rate is set between first 0-30 minutes, 91-120 minutes and 131-160 minutes and last 221-250 minutes, wherein, a second frequency rate is set between 31-90 minutes and 161-220 minutes, wherein the first and second frequency rate is 15 seconds and 25 seconds, respectively. In second example, the event is a sport event, duration of sport event is 2 hours and a first frequency rate is set between first 0-20 minutes, and 71-90 minutes and a second frequency rate is set between 21-70 minutes and the first and second frequency rate is 15 seconds and 25 seconds, respectively. Similarly, the duration, frequency rates for each and every event either sport event or a news event, is automatically captured by the application server and the one or more frequency rates are categorized and set based on at least one of the types of events, total duration of event, viewer count, current stimulation in subject event.

[0027] While various embodiments of the present disclosure have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present disclosure should not be limited by any of the above-discussed embodiments but should be defined only in accordance with the following claims and their equivalents.

Claims

I/ We claim,

1. A method of receiving activity data from an external server to the application server, the method comprising:
 - monitoring, by the application server, at least one event from the plurality of ongoing events;
 - identifying, at the application server, at least one crucial activity from the plurality of crucial activities;
 - initiating, at the application server, at least one trigger from the plurality of triggers, when the first crucial activity is achieved, wherein, subject first trigger initiates an API call to pull the activity data relating the subject event from the external server, at a first frequency rate; and
 - receiving, at the application server, the activity data of subject event at the first frequency rate from the external server, wherein the first frequency rate is every 15 seconds;
2. The method of claim 1, wherein the activity data of the event is received by the application server through a pull mechanism, initiated in response to the API call.
3. The method of claim 1, further comprising:
 - initiating, at the application server, a second, a third, a fourth and a fifth trigger from the plurality of triggers, when the second, the third, the fourth and the fifth crucial activity is achieved, wherein, subject second, third, fourth and fifth trigger initiates an API call to pull the activity data relating the subject event from the external server, at a second, third, fourth and fifth frequency rate;
4. The method of claim 3, wherein, the second, third, fourth and fifth frequency rate is at least one of, 25 seconds, 35 seconds, 45 seconds and 55 seconds.
5. The method of claim 1, further comprising:
 - determining real time status of the event, at the external server, wherein the real time event data is received, at the application server; and
 - configuring, at the application server, at least one or more frequency rates, wherein the frequency rate is predominantly set by the application server based on at least one of type, duration, current stimulation of subject sport event.
6. The method of claim 5, wherein, the at least one or more frequency rates, wherein the frequency rate is automatically set by the application server based on at least one of type, duration, current stimulation of subject sport event.

7. The method of claim 5, wherein, event is a sport event, duration of sport event is 4 hours 10 minutes and a first frequency rate is set between first 0-30 minutes, 91-120 minutes and 131-160 minutes and last 221-250 minutes, wherein, a second frequency rate is set between 31-90 minutes and 161-220 minutes, wherein the first and second frequency rate is 15 seconds and 25 seconds, respectively.