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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.: AIRP-01000

PROVISIONAL APPLICATION TRANSMITTAL

Sir:

Transmitted herewith for filing is the provisional patent application of Inventor: David B. Lockton et al.

Title: **A METHODOLOGY FOR EQUALIZING SYSTEMIC LATENCIES IN TELEVISION RECEPTION IN CONNECTION WITH GAMES OF SKILL PLAYED IN CONNECTION WITH LIVE TELEVISION PROGRAMMING**

CERTIFICATION UNDER 37 CFR § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date, April 12, 2006, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EV847497077US addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Nicole Walsh
(Name of Person Mailing Paper)

Signature

Enclosed are:

1. The papers required for filing date under CFR § 1.53(b)(2):

X Pages which includes
11 Pages of Specification, including drawings

2. First and Joint Inventor Information:

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3. Fee Calculation

X Applicants are entitled to small entity status

Provisional Application Basic Fee: \$200.00

50% Filing Fee Reduction (if applicable)

TOTAL FEES ENCLOSED

\$ 100.00

4. Payment of Fees

X Check in the amount of \$100.00 enclosed.

5. X Authorization to Charge Additional Fees

The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or § 1.17 to Account No. 08-1275 An originally executed duplicate of this transmittal is enclosed for this purpose.

6. X Return Receipt Postcard

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8. This invention was not made by an agency of the U.S. Government nor under contract with an agency of the U.S. Government.

Dated: April 12, 2006

By: Jonathan O. Owens
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FanDuel Ex. 1009-0001

A methodology for equalizing systemic latencies in television reception in connection with games of skill played in connection with live television programming.

This preliminary application incorporates by reference U.S. Provisional Patent Application No. 60/692,356, filed on June 20, 2005, and entitled "SYSTEMS AND METHODOLOGIES ENABLING A CELL PHONE BASED SUBSCRIPTION SERVICE OFFERING A VARIETY OF SCHEDULED GAMES IN CONNECTION WITH LIVE TELEVISION PROGRAMMING." U.S. Patent No. 4,592,546, issued on June 3, 1986, and entitled "GAME OF SKILL PLAYABLE BY REMOTE PARTICIPANTS IN CONJUNCTION WITH A LIVE EVENT," is also hereby incorporated by reference.

I The Problems

This application addresses three separate classes of latency issues, here defined as the length of time it takes a TV signal to reach a viewer, encountered in producing real time entertainment such as games of skill synchronized with TV programming. They are: systemic propagation delays in the delivery of a TV signal to a receiver, arbitrarily imposed delays of the broadcast TV signal, and variances in the precise broadcast times of taped TV programs, sold through syndication to individual TV stations.

A. Systemic Propagation Delays

This section of the application addresses specific challenges facing a service comprised of games or other entertainment played by remote participants utilizing cell phones or the internet, in connection with a live telecast. Examples are baseball, basketball and football games, game shows, such as *Wheel of Fortune* and *Jeopardy* or other television programming such as predicting the winners of the Oscars. In a game of skill, for example, fair competition necessitates that a fast paced game, based on the unfolding TV action, a level playing field exists for all participants regardless of how they receive their television signal. These propagation delays result from, among other things, the number of satellite hops required to deliver the signal, the method of processing and rebroadcasting the signal after it is received by cable systems head on, or an over the air broadcast television station, and whether or not the signal is further processed for high definition television. Furthermore, digital television recording systems (DVR's) such as TiVo™ can also generate delays in the viewing of the picture after the signal is processed after receipt via satellite or cable. These delays can create a difference between the first signal received and the last received of more than several seconds.

This section focuses on the unsatisfactory experience and/or the potential competitive advantage that can arise from the variances in the exact time one viewer sees an event on their TV versus another competitor who receives their TV signal through a different delivery path. In the U.S., the 120 million TV homes receive their signal either through an over the air broadcast, cable system, or via satellite delivery. Each delivery system

can impose propagation delays of various time lengths. If the delay between the time a viewer with the least amount of delay and the person receiving the signal with the greatest delay exceeds several seconds, some inequalities in game experience and play can result.

Take for example a game based upon a football telecast, wherein competitors predict the play that the coaches and or quarterback call prior to the snap of the ball. The competitor's prediction is based among other things on their observation of the down, distance, and the offensive and defensive formations on the field, and tendencies of the teams in these situations. Such a game utilizes a "lock out" signal (see patent #4,592,546) to prohibit the entry of predictions after the competitor sees the play begin to unfold, at the snap of the ball. The time stamped "lock out" signal is generated by a game producer also viewing a telecast from a different location. If the game producer is viewing a TV signal several seconds before some competitors, and generating a time stamp based on that event, an advantage can result if the difference in the time stamp and the receipt of the "lock out" signal is 2 or more seconds earlier in relation to another competitor's television signal which is delayed several seconds. During this period of time, for example, on a first or second down situation, a competitor receiving the "lock out" just as the quarterback receives the snap and TV signal at the same time as the game producer while another competitor with a delayed TV signal, receives a "lock out" signal while the quarterback is approaching the line of scrimmage, on the other hand. If the game producer is viewing a signal after a viewer, a competitor might see the quarterback start to drop back into a "shot gun" formation, making the likelihood of a pass considerably higher. This latter player might have time to change his prediction from, "run" to "pass" before receiving a "lock out" generated at the snap of the ball. This person consistently receiving "lock out" later than another competitor might, through the course of the game, gain some competitive advantage.

While it is not clear that sufficient enough competitive advantage is gained between a competitor receiving their "lock out" signal precisely at the snap of the ball, and one who is locked out a few seconds prior to the snap of the ball, this discrepancy may present the appearance of a playing field that is not level and the primary benefit of the system addressed in this patent is to insure the competitors feel they are on equal footing.

The patentable methods of insuring fair competition based on this classification of delay are specifically addressed in Section II-A.

B. Arbitrarily Imposed Delays on the Broadcast of the Signal, and the Physically Present Competitor

As a result of the Janet Jackson half time show episode at the 2004 Super Bowl, one network has announced its intention to impose up to a 7 second delay on telecasts of live sporting events. More recently an obscenity uttered by a competitor at the conclusion of a live NASCAR race has resulted in another network announcing it may impose a 5-7 second delay on future broadcasts of NASCAR races. These arbitrarily imposed delays

are a significantly longer duration than those resulting from the above described propagation delays of the broadcast television or cellular network control information.

A distinct advantage can arise to a game player who is physically present at an event being televised which is the basis of a contest of skill. This is because in certain instances they will receive "lock out" signals generated for competitors among the TV viewing audience, particularly if the game producer is not physically present at the venue but viewing a telecast. This discrepancy would permit prediction entry as much as 5 seconds later than those watching an artificially delayed TV picture. This magnitude of delay can result in a real competitive advantage for the game player who is physically present. For example, a soccer or hockey contest of skill might contain an element where a competitor is given a limited number of opportunities to predict if there will be a "shot on goal" within the next 5 seconds. The 5 second advantage to the competitor physically present would be significant, because the receipt of a lockout signal generated for the huge television audience could occur after a shot had occurred.

In a contest based on a football game, a competitor present at the stadium would receive their "lock out" signals after the play was underway and could often determine whether the play was a pass or run prior to receipt of the lockout signal. It is also likely that other live televised events such as The Oscars, Grammy's, beauty contests, and other TV programming that can support games of skill would impose delays on the telecast for the same or different reasons, also providing the opportunity for competitive advantage for those who are attending the event in person. The patentable solutions to this problem are addressed in Section II-B.

C. Taped and Syndicated Television Programs

A separate but related latency problem arises in the case of syndicated television shows, which are by necessity pre-taped. Examples are game shows like *Wheel of Fortune*™, and *Jeopardy*™. These pre-recorded TV game shows are generally syndicated, meaning they are sold to a specific TV station on an exclusive lease for the local TV market served by the station's signal. The TV stations generally air these half hour episodes at various times in "prime time access," which is generally considered between 6-8 pm. Therefore, with 3 different time zones, the start times differ from market to market. In addition, the precise time each commercial bracketed television segment that is broadcast can vary by a few seconds based on the time each station's engineering personnel broadcasts the show segments after the insertion of local and national commercials. Thus, for a show like *Jeopardy*™, there might be over 100 separate slightly different broadcasts from a time standpoint for a single episode of *Jeopardy* on a given day. In addition, these syndicated telecasts can also experience the same propagation delays described in Section I-A.

Contests of skill on cell phones around these syndicated telecasts are produced with the cooperation of the game show producers, and game data files are produced which are precisely time-synchronized to the final video tape of the TV game show. These files must be precisely synchronized and a delay of just a few seconds could give an unfair

competitive advantage to a viewer who is receiving their “lock out” signal later than another competitor in a fast paced game like *Jeopardy*™. The game data files must be synchronized with the TV show at the beginning of the program and again as the show returns to the game competition from each commercial break. The patentable solutions to this problem are addressed in Section II-C.

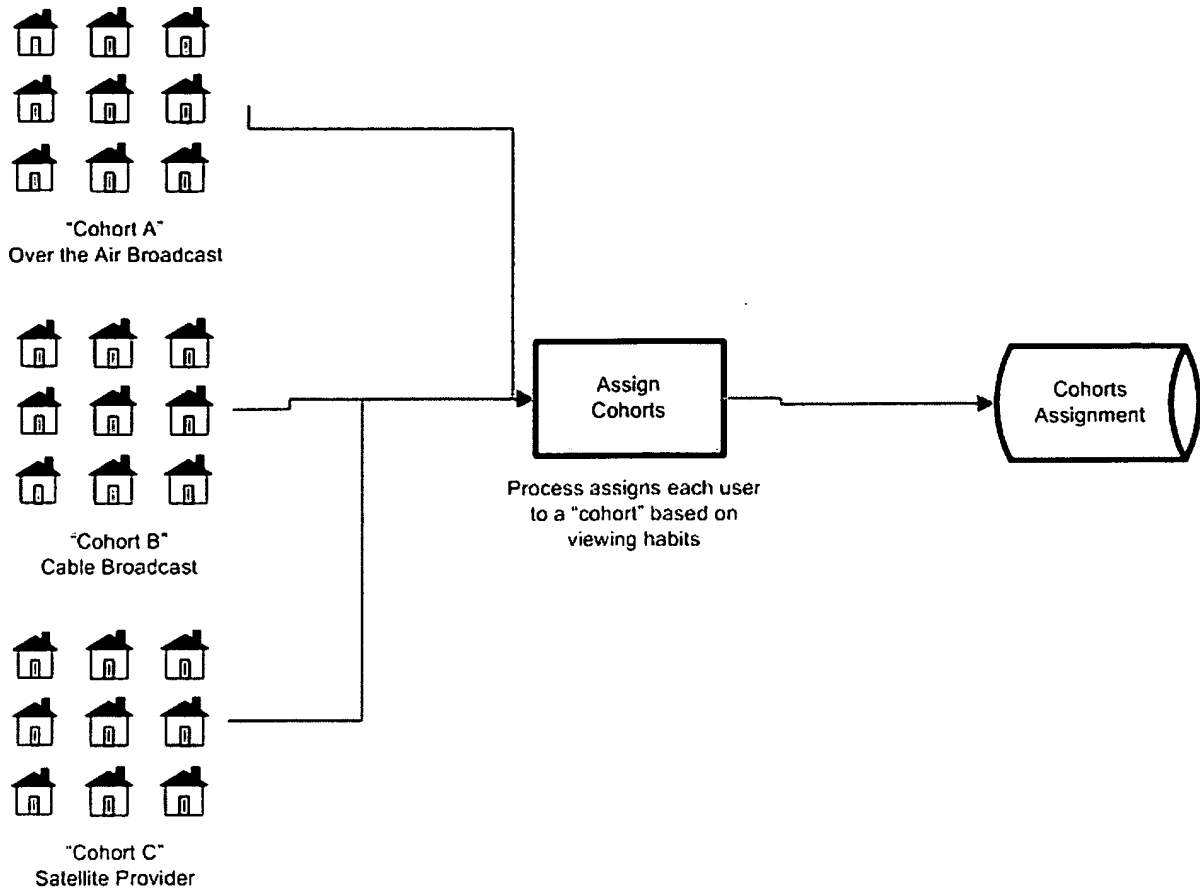
II The Solutions

A. Systemic Propagation Delays

This invention creates a system and method to effectively equalize systemic propagation delay variances, to a level according to the demands and rules of a particular game, so that a material competitive advantage is not obtained and the user experience is optimized for all players.

The solution first relies on the determination of how each viewer is receiving their TV signal, i.e., via an over the air broadcast in a metropolitan area, via a particular cable system, or a particular satellite system. All subscribers to a particular service provider or who are receiving an over the air broadcast in a specific metropolitan area will receive the signal at their location at the same time. It may also be determined if there is further processing of the signal within the homes, office, bar, etc., which could further increase the total length of the propagation delay. Examples would be the use of a DVR, like TiVo™. This invention relies on a variety of methodologies which can be utilized to determine the time difference between the reception of the television picture being utilized by the central game production facility where “lock out” signals are generated, and each separate group of viewers around the country, or around the world.

For this system the total viewing population for a telecast is divided into segments or blocks of viewers referred to as “cohorts” in this application. For example the 2 million inhabitants of San Francisco Bay would be divided into approximately 1 over the air broadcast, 3 satellite independent providers, and several cable “lead ends” or central broadcast points serving a “cohort.” This information would be gathered at a central game server and all players registered to play in a particular contest would be assigned to a specific cohort of viewers.



The following are some methodologies for determining the delays experienced by various cohorts which might be used in combination:

a) Upon joining the service, and prior to initial game play, subscribers and competitors would be required to identify the method by which they receive their television signal, and identify the cable or satellite service provider, and answer questions relative to whether or not they subscribe to an analog or digital high definition service, or utilize a DVR. This information can be verified by sending questions to their cell phones concerning commercials, station breaks, or other information only seen by members of that cohort.

b) Establishing a routine upon entry into the game where the individual viewer is asked to mark the precise time a predetermined audio or visual event is viewed on the TV program occurs, such as the initial kickoff, which would establish the deviation of their receipt of their television picture from the TV signal utilized by the game producers.

While some viewers might attempt to cheat by delaying their input, the earliest entries from the cohorts in this group would be avenged to establish the accurate delta between the receipt of the telecast by the production crew and those in each discrete sub group of viewers.

- c) Utilization of the GPS function in the cell phone to determine the physical location of a viewer which is matched to a database of cable lead ends, or over the air broadcast stations available to a consumer in that precise location.
- d) The utilization of employees of the game producer who are members of the subgroups which constitute the competitors/viewers, i.e., a subscriber to Comcast Cable in San Francisco. These individuals would provide the current propagation delay information sent to the game server utilizing their identification of a recognizable event they observe on their television set, such as the initial snap of the ball.
- e) The insertion of audio or video artifacts or information done in cooperation with the TV signal provider which must be immediately responded to by the competitor to verify the source of their TV signal, or monitored at cooperative viewer's TV sets.
- f) Establishing the various delays through an automated system which samples the audio or video track of the underlying satellite, cable, or over the air broadcast TV signals around the country, linked to the game server, to provide the information of the precise arrival of the underlying television picture.

Utilizing this software resident in the game control server, game control data for each set of viewers/competitors of the game in progress who are receiving their television picture through the same source, are batched together by the game controls server, and the appropriate delay is either time stamped on the game "lock out" signals, or is imposed on the entire data stream, so that competitors receiving their television information slightly behind or ahead of others gain no material competitive advantage (see below). Another method is for game control server to send all the game control data to all the viewer/competitors of the game at the same time, and the client software can delay the presentation of the game data based on the viewers cohort.

Utilizing these methodologies to measure the delays in each group, each cohort of viewers would have artificial time delays on the game control information imposed by the game control server, which would substantially equalize the receipt of "lock out" data relative to the event triggering the "lock out," based on the underlying television programming, for example, the snap of the football. Players receiving the television signals in advance of the one with the slowest receipt of the TV signal would receive, "lock out" signals slightly delayed or time stamped with a slightly later time (see patent #4,592,546). By providing a correspondingly delayed lock out to a viewer receiving their signal later, a potential advantage is mitigated.

Alternatively, this time equalization from cohort to cohort could, for example, involve artificially delaying the transmission of the game control data stream sent to all competitors cell phones, or other mobile devices by the appropriate amount of seconds, to sufficiently minimize the advantage a player with a few more seconds of TV based information would have. For example, by time stamping the “lock out” signal at an earlier event, such as when the team breaks from the huddle, the chance of some cohorts seeing the actual beginning of the play is eliminated and the discrepancy in propagation delay provides little or no advantage.

B. Arbitrary Delays – the “Janet Jackson” problem

The cellular telephone system currently has methodologies to determine a user’s physical location. The 911 emergency laws mandate the cell systems to have the capability of determining the location of a 911 emergency caller within 150 feet. More sophisticated approaches combine cell site location technology with geosynchronous positioning satellite capabilities (GPS). Companies like Qualcomm™ have implemented various location technologies such as *Snaptrack*, *SnapSmart*, *Snapcore*, which provide a cell phone’s physical location within a matter of yards.

For each televised live event, the physical venue for this event would be known by the organizer of a game of skill in advance. It therefore is possible to determine for each contest of skill the specific cell sites which will serve cell phone owners physically present at that venue. A methodology is employed to identify all the cell phones logging into the game server registering to play the game of skill, which are co-located within cell sites servicing the stadium or auditorium where the televised live event is taking place. The invention might also involve a communication methodology between the cellular carrier and the game control computer software contained in the game application resident on a game competitor’s phone, which would identify the cell phone physically in the stadium.

Before the start of the contest of skill, this system informs the central computer of the game selected to be played by each competitor. For example, the *San Francisco 49ers* vs the *New York Giants*. The central game control server’s software would hold current information on the physical location of the stadium of each game, for example, Candlestick Park in South San Francisco, and the cell sites covering this location. The software resident on the cell phone or on the server then identifies the phone as one located physically at the telecast game’s venue.

To insure that potential competitors at the live venue can also compete in a contest of skill, the central game server will separate the scoring data and game control data for competitors using these cell phones in this specific location from the general pool of competitors who are not so located, but watching the game via television. A separate contest is then created and scored for those competitors who have the advantage of viewing the event live, and a separate prize pool is awarded. This separate game would

be produced through the observation of the actual game physically at the venue, or through the operation of a non delayed satellite feed.

A separate claim of this patent application applies this solution to the type of propagation delays which are described in sections I-A and II-A. Thus, if it is ultimately determined through statistical data, that certain groups of television viewers as opposed to live event attendees, who are competitors in these games of skill are gaining sufficient enough competitive advantage, segregating those players at the extreme ends of the propagation delays, into two or more separate contests with separate sets of prizes, may also be employed as described above. For example, creating a separate contest for satellite viewer's versus cable and over the air viewers.

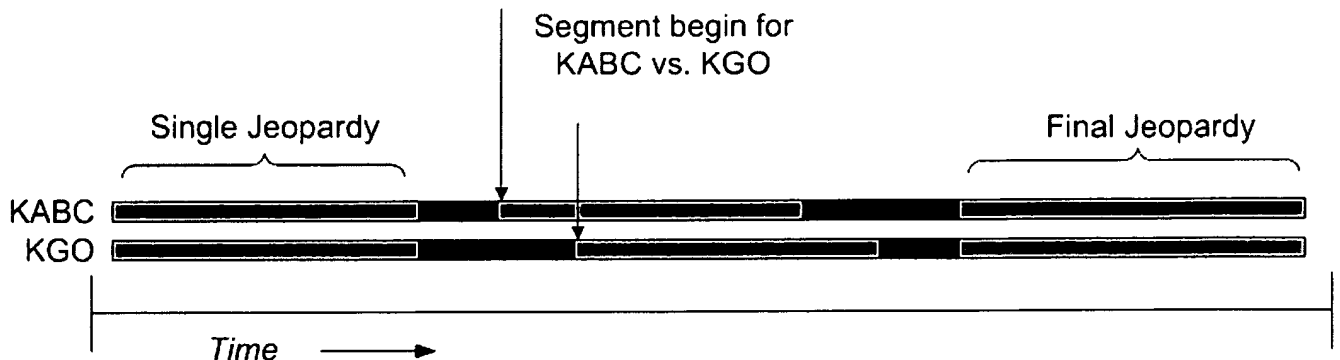
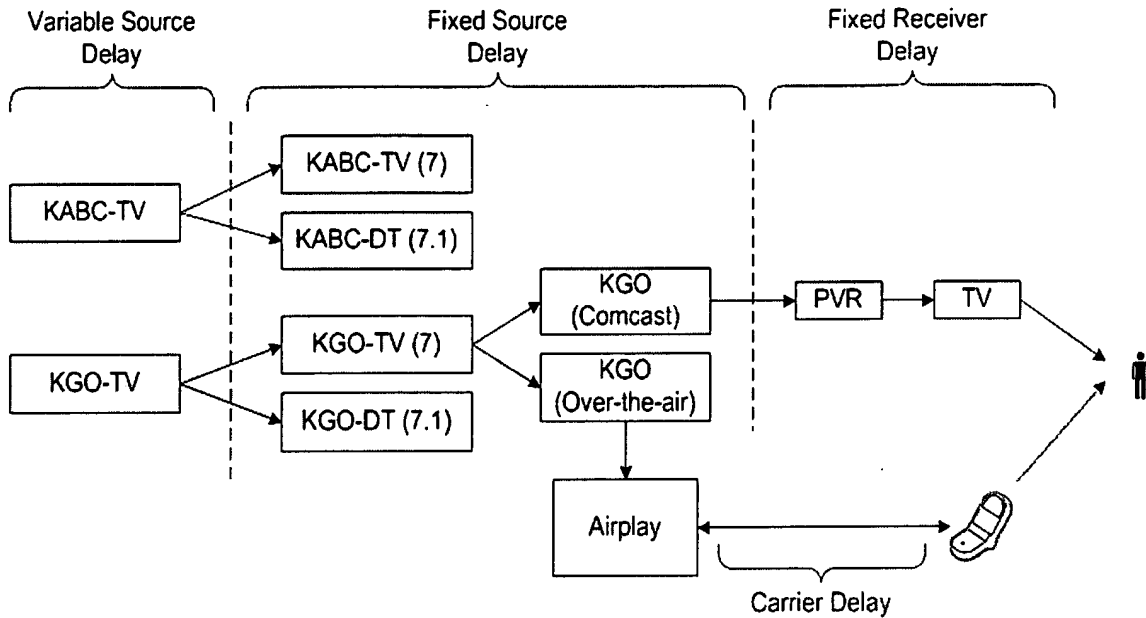
C. Syndicated Taped Telecasts

This solution addresses the separate, but related problem of synchronizing game data files with the broadcast of prerecorded and syndicated games, entertainment, reality, or other TV programming that is aired in different time zones at the choice of the purchasing TV station. As opposed to live sporting events, the game production for this genre of programming is not done live through real time observation of the unfolding telecast, but is produced in advance with the cooperation of the show producer as a time synchronized file, utilizing the final edited for broadcast television program.

In general, these game data files are divided into separate "segments" which compromise the entire TV program and aired between the insertion of national, regional, and local advertising. As the TV program returns from the opening commercials, the initial game or entertainment segment is launched by the game producer, synchronized to the playing of the TV tape, and the data files for this segment would end with the first commercial break. The other game "chapters" are resynchronized as each segment of the telecast resumes from commercial break. The local telecasts might have variations of anywhere from 1 to 5 seconds, or more, resulting from the use of different commercials by different stations, and the variances in the local production by the engineering management of the syndicated telecasts.

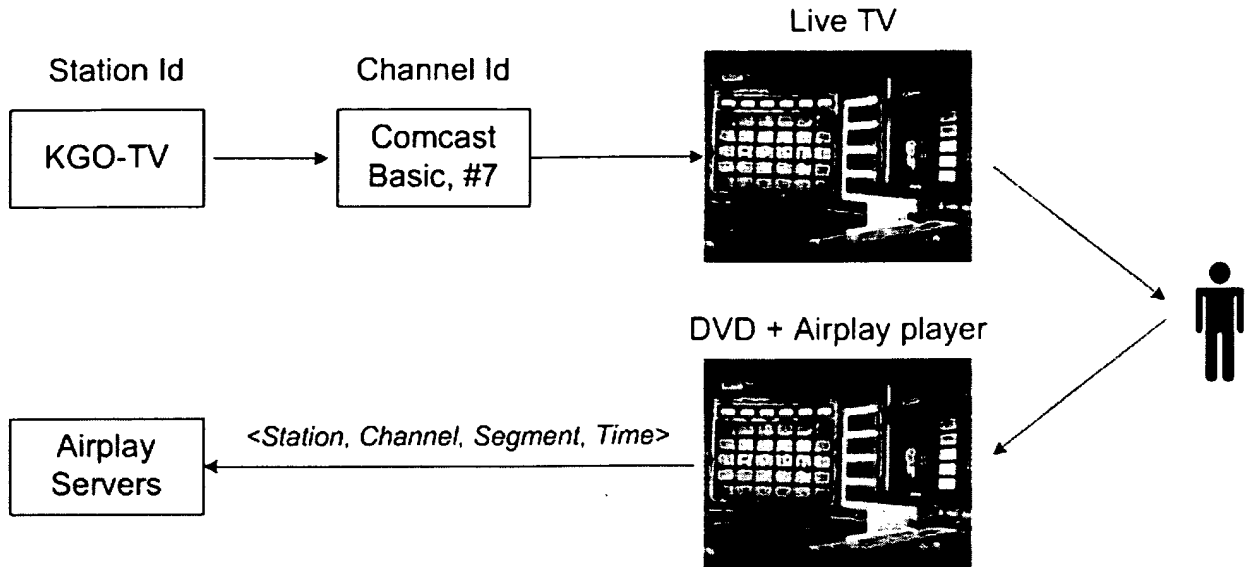
This invention protects a system which first determines all of the separate and unique TV markets where the cell phone service will be offered in connection with a syndicated, taped version of an underlying television program, for example, *Jeopardy*™. Network broadcasts usually air in three separate time zones. This information is available from the shows syndicator, for example, *Jeopardy*™, the syndicator King World™, or the Sony™ show's licensor. This information is also publicly available through the various TV guides. The game production servers hold the pre produced game data files to be broadcast to the cell phones of the participating subscribers, containing, for example, the correct answers and possibly some intentionally wrong multiple choice answers in the case of *Jeopardy* or other multiple choice based game shows. The server begins the broadcast of its time synchronized files for each discrete telecast of a single TV program

at a precise start point for each “segment” or chapter. With knowledge of the precise timing of the discrete segments of the broadcast, for each separate syndicated market, the server transmits the prerecorded files in most cases, at a slightly separate and different time to each viewer who is viewing the telecast in a particular market via a particular broadcast, satellite or cable signal.



The precise start times of the beginning episode of a game show and the start times of the other segments, beginning as the show resumes after a national and local commercial is delivered to the server through various methodologies including:

a) The cooperation of an employee of the game provider based on visual observation of the telecast for that market, utilizing a personal computer and the internet, or by utilizing their local cell phone, all connected to the game server.

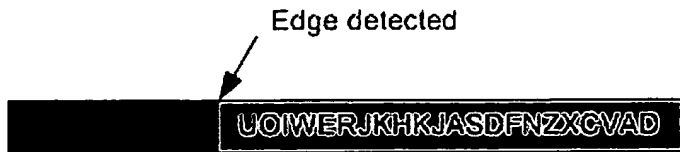


b) Utilizing an audio or video recognition system with online access to the broadcast of the underlying television program for each separate market which provides real-time tracking of the TV broadcast to the game control server, insuring the game data file can be precisely synchronized to the television picture. Information could also be inserted in the Vertical Blanking Interval (VBI) and tracked online in real time by the game control server. Utilizing some of the procedures outlined in section II-A, above, the propagation delays in the receipt of the cellular transmission are also monitored and the game server adjusts the data files containing the "lock outs" to accommodate the systemic delay in the delivery of the game data on the cellular networks.

c) With the cooperation of the producers of game shows, precise audio or video events in the telecast could either be added to the video, such as a visible count down, or existing events in the telecast identified by the producers as synchronization points which the competitors could utilize as start points for the previously downloaded data files at the press of an appropriate button on their cell phone. This would trigger the launch of a program previously down loaded to the phone's RAM. And time synchronization would be launched.

d) An audio signal, possibly sub audible to humans, can be inserted into the taped audio track recognizable by the audio receiver in a cell phone which would be utilized to start and/or continually keep the pre-produced data files resident on the cell phone in synchronization with the telecast.

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Known hash from produced video

MKMHSNDFUOIWERJKHKJASDFNZXCVAD

Live signal hash

PATENT APPLICATION SERIAL NO. _____

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PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

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