

**A SYSTEM AND METHOD FOR PRESENTING ROUTE SPECIFIC  
INFORMATION TO A PERSON INTENDING TO TRAVEL TO A  
DESTINATION**

**5 FIELD OF THE INVENTION**

The present invention relates to a system and method for presenting route specific information to a person intending to travel to a destination, and is of particular  
10 but by no means exclusive application to presenting advertisements to a passenger of a public transport vehicle.

**BACKGROUND OF THE INVENTION**

15

Placing advertisements in public transport vehicles (for example, taxis and buses) has generally proven to be an effective form of marketing. The advertisements are commonly placed on the roof of the vehicle and/or inside  
20 the passenger area of the vehicle so as to be exposed to the passengers thereof. These advertisements typically include the traditional static poster. However, the recent trend towards multimedia means that many of these advertisements are now displayed using electronic means,  
25 such as a monitor and speakers.

Unfortunately, advertisements in public transport vehicles can, in some instances, be ineffective because advertising is often location sensitive; that is,  
30 advertisements are often required to be displayed in a specific geographic area in order to reach the target audience. As an example of this problem, the owners of a shop located on a particular street may wish to target only those people in the street. As such, they can opt to  
35 place an advertisement for their shops in one or more forms of public transport which may travel along the particular street. They may also want to know how many

people are interested in their advertisements on the one or more forms of public transport in real-time. So that they can target to these people their shops' promotions or mCoupon of their products. People in the public transport  
5 since they are on route of the shops may decide to drop by the shops to buy products or pick up some essentials. This makes life easier and interesting for the commuters and advertisers.

10 However, for some forms of public transport (for example, taxis) it is often difficult to determine whether a taxi displaying the shop advertisement will travel along the particular street, and thus reach the target audience. In WO 01/45065 A2 patent only addresses some of these  
15 problems but it requires many complicated gadgets like electronic location indicator, Global Positioning System (GPS), speed sensor and thermometer in the vehicles. This system is considered cumbersome with too many different detecting means applied and the failure of any of the  
20 detecting means to detect any of the gadgets on-board can lead to failure to the whole system. Moreover, it is not an effective & simple system to provide advertisements for the advertisers, commuters & target audience. It does not provide full interactivity through mobile phone which is  
25 being carried by most commuters nowadays. Neither does it provide good experience and choices for the passenger regarding the route between two locations. It only provides the best route to between two locations Therefore, it is an object of this invention to provide protocols and  
30 engines for interactive use of the simple devices (computer, monitor, display panels and speaker) to provide desirable & effective advertising messages for the person intending to travel to a destination, and is of particular but by no means exclusive application to presenting

advertisements to a passenger of a public transport vehicle. The invention provides good experience and choices for the passenger to decide different routes they would like to take for example, Route 1(Shortest), Route  
5 2(Fastest), Route 3 (Choice of Interests)

WO 00/26062 issued to Eyal Cohen discloses a mobile display system for conveying messages, comprising a vehicle adapted to traverse a geographic region, said  
10 region being segregated into zones, a display carried by said vehicle, a controller associated with said vehicles, said controller being operably connected to said display, said controller driving said display to generate a publicly viewable message selected for a first zone within  
15 which said vehicle is located, means operably connected to said controller for generating signals indicative of the geographic location of said vehicle, said controller receiving said signals indicative of the geographic location of the vehicle and determining when the vehicle  
20 has entered a different zone for which the message has not been selected for display and driving said display to generate a different message selected for display in said different zone. The advertisement is played according to a schedule which includes date, time of day and display  
25 duration. However, this system is lacked of public interactivity or commuter interactivity and the public is unable to participate in the product promotion and to request information at the right time. The advertisers are also constrained by the current system since there is no  
30 tracking system to how many responses each of their advertisements have been generated and also, how many times it has been requested. Moreover, the zone-based advertising with schedule indicating which messages are to

be shown in which zones at which times are zone  
constrained and not passenger friendly. Passenger may want  
to go on certain route, see certain advertisements and  
make certain decision on the way. It is the objective of  
5 this invention where 'predetermined route' can be decided  
by the passenger with choices that enable good experience  
for the passenger and effective advertisements by the  
advertisers. With simple devices in the public transport &  
mobile phone carried by the passenger, one can have  
10 meaningful interactive session with the advertisements  
throughout the journey.

US 6401034 B1 discloses a method and system for finding  
intermediate destinations with a navigation system,  
15 preferable located in an automobile, comprising a computer  
including a processor and memory and other appropriate  
equipment, means for determining the vehicle position,  
said navigation system using geographic data including  
information about one or more geographic regions or  
20 coverage areas and comprising a user interface couple to  
said computer. The feature identifies for the user one  
point of interest of the specified type at which an  
intermediate stop can be made while on route to the final  
destination, wherein a route to the final destination that  
25 includes an intermediate stop at the one point of interest  
takes less time than routes to the final destination that  
make an intermediate stop at other points of interest of  
the specified type. However, this does not address  
requirements of the passenger in the public vehicle that  
30 are more complex than optimize the travel distance.  
Moreover, it does not provide the interactivity between  
the shops and the passenger as well as providing mCoupons.

WO 00/75911 A1 discloses an in-vehicle promotions system and a method for distributing promotions information, said system installed in a vehicle being able to display promotions information from stores or other businesses  
5 subscribing to said system. When the vehicle is driven within a certain proximity of the store, the promotions information, which may include coupons, is automatically displayed. The system preferably comprises a printer for printing the promotions or other information either on  
10 demand or automatically. The position of the vehicle may be monitored with a GPS or Loran receiver and the promotions information displayed when the system finds the position of the vehicle to be within a defined range of a store with the promotions information is associated. The  
15 store may also transmit the coupon information received by said in-vehicle system when the vehicle comes within a defined transmitting range of said store. This is cumbersome and required a lot of equipments like GPS & printer which will cause problem in the taxi especially  
20 the printer paper. Moreover, it is only providing one-way communication to the passenger and not vice versa.

Various other disclosures have been made regarding itinerary preparing apparatus and travel reservation  
25 information and planning system enabling a user to plan, review, locate, schedule and select or execute customized or personalized travel arrangements. Examples of these can be seen in US 6009403 A and US 5948040 A. All of them are not advertisement based real-time interactive system. It  
30 cannot provide the interactivity & good experience that the passenger & advertisers want.

The prior art also does not provide interactive mobile system. It is the objective of this invention to provide good experience & choices for the passenger and also allow advertisers to display advertisements simply & effectively.

5 The current system is also unable to play series of advertisements, changeable at any time when someone wants to advertise due to some events at that particular moment or broadcast message for that event. The current system also does not provide real-time broadcast of some speech.

10 Today, the public who are interested to participate in a promotion or who wants to know more about a particular product do not bother to call the given telephone number. By adding interactivity to the advertisements, the public can now use their mobile phone to request information, to

15 obtain mCoupons, to participate in wireless contest, and get brochures from brochure dispenser through simple SMS.

#### SUMMARY OF THE INVENTION

20 It is therefore an object of the present invention to provide an alternative system and method for presenting route specific information to a person intending to travel to a destination.

25 According to a first aspect of the present invention, there is provided a system for presenting route specific information to a person intending to travel to a destination, the system including:

an input device into which the person can enter the

30 destination;

a processing means which is capable of processing the destination entered into the input device in order to determine a route to the destination; and

presenting means for presenting to the person the

35 information which is specific to the route.

Preferably, the system further includes recording means for recording a duration which the presenting means presents the route specific information.

5

Even more preferably, the system is capable of processing the duration to produce billing data for presenting the route specific information.

10 Preferably, the route specific information is associated with a geographical location.

Preferably, the route specific information includes video, animation, static pictures and/or scrolling text.

15

Even more preferably, the route specific information includes an advertisement.

20 Even more preferably, the presenting means presents the route specific information when the geographic location is along the route.

Preferably, the input device includes data input terminal.

25

Preferably, the processing means includes a computing device.

30 Preferably, the presenting means includes at least one electronic visual display and a speaker.

Preferably, the system is located on a vehicle.

35 Preferably, the system further includes control/presenting means for controlling the route specific information presented by the presenting means.

Even more preferably, the control/presenting means is capable of presenting a schedule of the vehicle.

5 Preferably, the system further includes first and second cameras, wherein the first of the cameras can be used to monitor a passenger area of the vehicle, and the second of the cameras can be used to monitor an area outside the vehicle.

10 Even more preferably, the control/presenting means is capable of controlling the first and second cameras.

15 Even more preferably, the processing means is capable of recording the area monitored by the first and second cameras.

20 Preferably, the system further includes interacting means for allowing the person to request further information about the route specific information presented by the presenting means.

Even more preferably, the further information includes a mCoupon.

25 Even more preferably, the interacting means includes a wireless link for allowing the request for further information to be sent from a personal communication device to the processing means, and to allow the further information to be forwarded from the processing means to the personal communications device.

Even more preferably, the processing means is capable of recording the request for further information.

35 According to a second aspect of the present invention, there is provided a method for presenting route specific information to a person intending to travel to a

destination, the method including the steps of:

the person entering the destination into an input device;

processing the destination entered into the input device in order to determine a route to the destination; and

presenting to the person the information which is specific to the route.

10 Preferably, the method further includes the step of recording a duration which the presenting means presents the route specific information.

15 Preferably, the method further includes the step of processing the duration to produce billing data for presenting the route specific information.

20 Preferably, the information includes an advertisement associated with a geographical location.

Even more preferably, the method further includes the step of presenting the information when the geographic location is along the route.

## 25 BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the present invention will now be described in detail, by way of example, with reference to the accompanying figures, in which:

30 Figures 1 - 4 is a schematic diagram of the present invention according to the preferred embodiment, in which the system is installed in a public transport vehicle.

35 Figure 5 is another schematic diagram of the system shown in figure 1, according to the preferred embodiment of the present invention.

## PREFERRED EMBODIMENT OF THE INVENTION

As illustrated in figure 1, the system 1 includes an  
5 input device 3, a processing means 5 and presenting means  
7. Preferably, the input device 3, processing means 5 and  
presenting means 7 are located in the passenger area of a  
public transport vehicle 9, which may be for example a  
taxi.

10

Upon boarding the vehicle 9, the passenger can enter  
into the input device 3 the destination he/she intends to  
travel to using the vehicle 9. To facilitate this, the  
input device 3 is typically a data terminal which has some  
15 form of graphical user interface, keypad, or speech  
recognition capabilities. The destination can be entered  
into the input device 3 in one or more formats, including  
street address, latitude/longitude, or suburb name.

20

Alternatively, the combination of input device 3 and  
presenting means 7 can be replaced by a touch screen  
control LCD screen. Typically, this combination can be  
used as a driver control/presenting means 10 (see figures  
3 and 4). The driver control/presenting means 10 is placed  
25 inside the transport vehicle 9 beside the driver's  
steering wheel, and allows the driver to control the  
playing mode of the route specific information and trigger  
emergency messages. The control/presenting means 10 is  
connected to the processing means 5.

30

The control/presenting means 10 also allows the  
driver to view taxi-booking information (a schedule for  
the vehicle). The taxi-booking information (which can  
include passenger name and pick-up point) is received from  
35 the taxi's headquarters. Once the headquarters has  
received booking information from a client, it will  
immediately send out the information via a wireless

communication link (for example GPRS) to all available vehicles. Taxi driver's can take the booking by confirming their status.

5           Once a passenger of the vehicle 9 has entered a destination, the destination is forwarded onto the processing means 5, which is typically a computer containing the appropriate software. The input device 3 and processing means 5 are connected to each other so that  
10 the destination can be transferred to the processing means 5 for processing thereby. Typically, the input device 3 and processing means 5 are connected by normal data cabling, but could also be connected via other means such as a wireless link.

15           When the processing means 5 receives the destination from the input device 3, it proceeds to determine a route(s) to the destination. Accordingly, the processing means 5 has access to maps which permit it to determine  
20 the route(s). The maps would generally be stored on a computer readable medium, such as a CD-ROM, hard disk etc, which the processing means 5 could access. The computer readable medium can be located on the vehicle 9, but may equally be located remotely from the vehicle and accessed  
25 via a wireless link, which is provided by a cellular telephone system. Preferably, once the route(s) have been determined, the processing means 5 displays the routes so that the passenger can view the route(s). In the event the processing means 5 determines multiple routes to the  
30 destination, the system 1 preferably allows the passenger to select a desired route to the destination by using the input device 3.

35           Typically, the route(s) would be forwarded to the presenting means 7 so that the passenger can view the route(s), which can be taken to get to the destination. As such, the processing means 5 and the presenting means 7

are connected to permit the route(s) to be transferred to the presenting means 7. The presenting means 7 is a visual display device such as a computer monitor, and also preferably includes a speaker so that the passenger can  
5 hear audio from multimedia information.

Once a route has been selected by the passenger, the processing means 5 checks an electronic storage medium 11 containing route specific information. The route specific  
10 information is typically associated with a geographic location, which can be in one of a number of formats such as latitude/longitude. If the processing means 5 locates route specific information in the storage medium 11 which is associated with a geographic location that is taken in  
15 by, or in the vicinity of, the route selected by the passenger, the processing means 5 forwards the route specific information to the presenting means 7. Upon receiving the route specific information the presenting means 7 proceeds to display the information to the  
20 passenger.

The storage medium 11 is typically an electronic database which is located on the vehicle 9, or alternatively located remote from the vehicle 9 and  
25 accessed via a wireless link provided by a cellular telephone system. The former being the preferably option as it would provide the system 1 with quicker performance.

The route specific information can include video, animation, pictures and/or scrolling text. Typically, the  
30 route specific information is in the form of an advertisement which is presented to the passenger, but could equally be general information about the route to the destination, such as the fact that there are road  
35 works under way along the route.

Typically, each piece of route specific information

selected for presentation by the processing means 5 is displayed one after the other. However, it is also envisaged that once the route specific information has been selected by the processing means 5, the processing means 5 will, prior to displaying the selected route specific information, categorize the selected route specific information into a number of groups. These groups could, for example, include: consumer products; fast food and restaurants; supermarket and department stores; lifestyle and healthcare stores; and cinema, entertainment, leisure and recreation.

Once the route specific information has been categorized, the processing means 5 causes the categories - not the categorized route specific information - to be presented to the passenger of the vehicle 9 on the presenting means 7.

Using the input device 3, the passenger is able to select one or more categories they are interested in. Once the passenger has made his/her selection of categories, the processing means 5 causes the route specific information categorized into the selected categories to be presented as outlined previously. By categorizing the route specific information in this manner, the passenger can view only that route specific information which is of interest to him/her.

If, for example, the passenger selects the categories of leisure, recreation and fast food, the system 1 could playback movie trailers and movie theaters screening the movie. There may also be information which informs the passenger how to book for the movie using, for example, a SMS message send from their mobile phone, or by using the input device 3. Furthermore, the information displayed to the passenger could include details on discounts available from various fast food outlets. The

passenger can take advantage of these discounts by using their mobile phone to request a mCoupon, which can be redeemed at the relevant restaurant.

5           Typically, the mCoupon would be transmitted as a SMS message to the passenger's mobile phone. However, the system 1 may also print the mCoupon via the taxi's receipt printer. Thus providing the passenger with a mCoupon that is in paper form rather than the electronic form of a  
10 mCoupon sent via SMS.

          Once the passenger has arrived at the destination (that is, traveled along the route), the system 1 can be reset to enable a new destination to be entered. Typically,  
15 the system 1 is reset by using the input terminal 3 to initiate an appropriate reset function.

          Preferably, the system 1 also includes a roof top presenting means 14 (see figures 2 - 4) located on the  
20 roof of the vehicle 9. The roof top presenting means 14 is a multi-screen display panel, and is capable of presenting the route specific information in two or more display panels according to schedule and advertiser's preference. The processing means 5 is connected to the rooftop  
25 presenting means 14. The processing means 5 generally forwards the same route specific information to the presenting means 7 and the roof top presenting means 14, but may also forward different information to the presenting means 7 and 14.

30

          The rooftop presenting means 14 has two modes for displaying the route specific information. The first mode is when the vehicle 9 is moving. When in the first mode, the rooftop presenting means 14 displays static  
35 information, such as text or a still picture. This enables people in the street to clearly view the information being presented by the rooftop presenting means 14. The second

mode is when the vehicle 9 is stationary. When in the second mode, the rooftop presenting means 14 is used to present dynamic information, such as video or animation clips. Typically, the processing means 5 is connected to  
5 the speedometer of the vehicle 9 to detect whether the vehicle 9 is moving or stationary, thus permitting the first and second mode to be determined.

Preferably, the system 1 also includes recording  
10 means 13 for recording the duration which the presenting means 7 presents the route specific information. The recording means 13 records, on an electronic medium, the route specific information which is presented and the duration it is displayed on the presenting means 7. The  
15 recorded information can then be used to provide billing data for the time which route specific information is presented by the system 1. The recording means is a suitably programmed computing device, and is connected to the presenting means 7 to permit monitoring of the  
20 information presented.

With reference to figure 5, the system 1 is supervised by an administrator 15 (a person who oversees the operation of the system 1). The administrator 15 uses  
25 the computer 17 to oversee the operation of the system 1. The computer 17 can receive route specific information from third parties, who wish to use the system 1 to present the information. Third parties can forward the route specific information to the computer 17 by various  
30 means including, Internet, e-mail, fax or phone. Along with the information, the third party can also specify the geographic location to be associated with the information. The geographic location can be in a variety of formats including a suburb name or latitude/longitude co-ordinates.  
35

Once the computer 17 has received the route specific information, it forwards the information to the vehicle 9

over a wireless link 19, which is preferably provided using a cellular telephone system. On receiving the information via the wireless link 19, the processing means 5 places the information in the electronic storage means 11, where it can later be accessed by the processing means 5 when presenting the information on the presenting means 7.

The system 1 is also preferably interactive so that the passenger can respond to information within the route specific information being presented by the presenting means 7. Typically, the information within the route specific information is a phone number which the passenger can dial using a personal communication device 21 such as a mobile phone. By dialing the phone number, the system 1 can send further information in relation to the route specific information. Responding to the telephone number can also be integrated into a mCoupon scheme which allows the passenger (or any other person) to wirelessly obtain a mCoupon as a SMS message on the mobile phone. The mCoupon received by the mobile phone can be presented to a merchant in order to obtain a discount when purchasing goods or services from the merchant.

The roof top presenting means 14 also presents information that includes a phone number or SMS number for allowing pedestrians in the particular street to interact with the route specific number. As previously mentioned, interactivity can include wirelessly receiving a mCoupon as a SMS message on a mobile phone. The received mCoupon can be presented to a merchant in order to obtain a discount when purchasing goods or services from the merchant. By sending a SMS message, the public can participate by sending a SMS message which includes, for example, their name, age and e-mail address.

Preferably, the computer system 17 would be

responsible for providing the interactivity feature, and is also capable of recording the various calls to the telephone number from the personal communications device 21. The data recorded by the computer 17 can be used for  
5 analyzing the effectiveness of the route specific information, particularly where it relates to advertisements. The collected data captured by the computer 17 can be presented in a graph or statistical format sorted periodically. The captured data can be  
10 broken down to view into specific categories (for example, the distribution of age groups of those responding). The system 1 also permits the captured data to be viewed on-line (that is, over the Internet) by advertisers.

15 As shown in figure 4, the system 1 can also include a camera system, which preferably includes two cameras 23. Both cameras are connected to the processing means 5, and can be controlled by the driver via the driver control/presenting means 10. One of the cameras 23a  
20 monitors the inside of the vehicle 9 as a security measure. This camera 23a can be automatically triggered in an emergency situation by a switch located underneath the driver's seat. When the camera 23a is triggered, it records the inside area of the vehicle 9. Images of the  
25 inside area are back to the headquarters, where they are monitored in real-time. The person monitoring the images can then take appropriate action. Preferably, triggering the camera 23a also causes an "EMERGENCY" sign to be displayed on the rooftop presenting means 14.

30 The second camera 23b records the area surrounding the vehicle 9. The images captured by this camera 23b are viewed by the driver on the driver control/presenting means 10. This provides the driver with a better view of  
35 the road conditions ahead.

The driver control presenting means 10 preferably

includes a "SHOW BILL" button, which when used by the driver causes the total taxi fare to be displayed to the passenger on the presenting means 7, and read out via the speaker in the presenting means 7. The system 1 also has  
5 the ability to display the taxi fare in multiple languages.

It should be noted that whilst the preferred embodiment describes the system 1 as being installed within a public transport vehicle, it is envisaged that  
10 the present invention could be installed in other objects. By way of example, the system 1 could be installed into an elevator. In which case, the input device 3 can be used to enter the required floor number. Upon entering the floor number, the presenting means 7 could display route  
15 specific information which relates, for example to the goods that are sold on the floor entered into the input device 3.

Another example of where the system 1 can be  
20 installed is in an Internet kiosk, which is fixed in a public location. The kiosk could be used by tourists to find their way around a city. When a destination has been entered and the route to the destination has also been displayed, advertisements which have some association with  
25 that route (route specific information) could also be displayed along with the route.

For the purposes of this specification it will be clearly understood that the word "comprising" means  
30 "including but not limited to", and that the word "comprises" has a corresponding meaning.

Those skilled in the art will appreciate that the invention described herein is susceptible to variations  
35 and modifications other than those specifically described. It should be understood that the invention includes all such variations and modifications which fall within the

spirit and scope of the invention.

**WE CLAIM:**

1. A system for presenting route specific  
5 information to a person intending to travel to a destination, the system including:  
an input device into which the person can enter the destination;  
a processing means which is capable of processing  
10 the destination entered into the input device in order to determine a route to the destination; and  
presenting means for presenting to the person the information which is specific to the route.
- 15 2. The system as claimed in claim 1, further including recording means for recording a duration which the presenting means presents the route specific information.
- 20 3. The system as claimed in claim 2, wherein the system is capable of processing the duration to produce billing data for presenting the route specific information.
4. The system as claimed in claim 1, wherein the  
25 route specific information is associated with a geographic location.
5. The system as claimed in claim 1, wherein the route specific information includes video, animation,  
30 static pictures and/or scrolling text.
6. The system as claimed in claim 5, wherein the route specific information includes an advertisement.
- 35 7. The system as claimed in claim 4, wherein the presenting means presents the route specific information when the geographic location is along the route.

8. The system as claimed in claim 1, wherein the input device includes data input terminal.

5           9. The system as claimed in claim 1, wherein the processing means includes a computing device.

10           10. The system as claimed in claim 1, wherein the presenting means includes at least one electronic visual display and a speaker.

11. The system as claimed in claim 1, wherein the system is located on a vehicle.

15           12. The system as claimed in claim 11, further including control/presenting means for controlling the route specific information presented by the presenting means.

20           13. The system as claimed in claim 12, wherein the control/presenting means is capable of presenting a schedule of the vehicle.

25           14. The system as claimed in claim 12, further including first and second cameras, wherein the first of the cameras can be used to monitor a passenger area of the vehicle, and the second of the cameras can be used to monitor an area outside the vehicle.

30           15. The system as claimed in claim 14, wherein the control/presenting means is capable of controlling the first and second cameras.

35           16. The system as claimed in claim 14, wherein the processing means is capable of recording the area monitored by the first and second cameras.

17. The system as claimed in claim 1, further including interacting means for allowing the person to request further information about the route specific information presented by the presenting means.

5

18. The system as claimed in claim 17, wherein the further information includes a mCoupon.

19. The system as claimed in claim 17, wherein the interacting means includes a wireless link for allowing the request for further information to be sent from a personal communication device to the processing means, and to allow the further information to be forwarded from the processing means to the personal communications device.

15

20. The system as claimed in claim 19, wherein the processing means is capable of recording the request for further information.

21. The system as claimed in claim 20, wherein the system is capable of processing the recorded request for further information so as to analyze responses to the route specific information presented by the presenting means.

25

22. A method for presenting route specific information to a person intending to travel to a destination, the method including the steps of:

the person entering the destination into an input device;

30

processing the destination entered into the input device in order to determine a route to the destination; and

presenting to the person the information which is specific to the route.

35

23. The method as claimed in claim 21, further

including the step of recording a duration which the presenting means presents the route specific information.

24. The method as claimed in claim 22, further  
5 including the step of processing the duration to produce billing data for presenting the route specific information.

25. The method as claimed in claim 21, wherein the  
information includes an advertisement associated with a  
10 geographical location.

26. The method as claimed in claim 24, further  
including the step of presenting the information when the  
geographic location is along the route.  
15