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Jones

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(54) **USER-DEFINABLE COMMUNICATIONS METHODS AND SYSTEMS**

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(56) **References Cited**

U.S. PATENT DOCUMENTS

3,568,161 A 3/1971 Knickel 340/994
3,644,883 A 2/1972 Borman et al. 340/23

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

EP 0219859 A2 4/1987 G08G/1/12

(List continued on next page.)

OTHER PUBLICATIONS

“Public Transportation Information and Management Ssystems”, IEE Colloquium, Computing and Control Division, May 25, 1993, pp. 9/1-9/4, 12/1-12/2, 7/1-7/3.

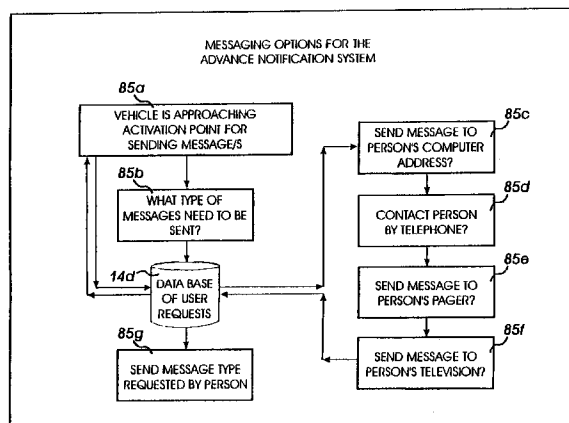
(List continued on next page.)

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(57) **ABSTRACT**

Notification methods and systems are provided. One such method, among others, can be broadly summarized by the following steps: enabling a user to define at least two communications methods for receiving notifications relating to travel of a mobile thing; enabling a user to define one or more criteria when each communications method should be used as opposed to one or more others; monitoring travel data associated with the mobile thing; and providing a notification using one or more of the communications methods, based upon the criteria. A notification system, among others, would have a mechanism for performing each of the foregoing steps.

51 Claims, 44 Drawing Sheets



U.S. PATENT DOCUMENTS

3,845,289	A	10/1974	French	235/151.2	5,546,444	A	8/1996	Roach, Jr. et al.	379/59
3,886,515	A	5/1975	Cottin et al.	340/994	5,552,795	A	9/1996	Tayloe et al.	342/357
3,934,125	A	1/1976	Macano	235/150.2	5,559,871	A	9/1996	Smith	379/115
4,220,946	A	9/1980	Henriot	340/23	5,570,100	A	10/1996	Grube et al.	364/446
4,297,672	A	10/1981	Fruchey et al.	340/23	5,577,101	A	11/1996	Bohm	379/58
4,325,057	A	4/1982	Bishop	340/539	5,579,376	A	11/1996	Kennedy, III et al.	379/60
4,350,969	A	9/1982	Greer	340/23	5,587,715	A	12/1996	Lewis	342/357
4,525,601	A	6/1985	Barnich et al.	379/7 MM	5,594,425	A	* 1/1997	Ladner et al.	340/825.49
4,585,904	A	4/1986	Mincone et al.	179/7.1 TP	5,594,650	A	1/1997	Shah et al.	364/449.1
4,713,661	A	12/1987	Boone et al.	340/994	5,594,787	A	1/1997	Ohshima et al.	379/114
4,791,571	A	12/1988	Takahashi et al.	364/436	5,602,739	A	2/1997	Haagenstad et al.	364/436
4,799,162	A	1/1989	Shinkawa et al.	364/436	5,623,260	A	4/1997	Jones	340/994
4,804,837	A	2/1989	Farley	250/251	5,648,770	A	7/1997	Ross	340/994
4,812,843	A	* 3/1989	Champion et al.	340/905	5,652,707	A	7/1997	Wortham	364/460
4,813,065	A	3/1989	Segala	379/112	5,657,010	A	8/1997	Jones	340/994
4,857,925	A	8/1989	Brubaker	340/994	5,668,543	A	9/1997	Jones	340/994
4,894,649	A	1/1990	Davis	340/825.44	5,673,305	A	9/1997	Ross	379/58
4,956,777	A	9/1990	Cearley et al.	364/424.02	5,680,119	A	10/1997	Magliari et al.	340/904
5,003,584	A	3/1991	Benyacar et al.	379/119	5,694,322	A	12/1997	Westerlage et al.	364/464
5,006,847	A	4/1991	Rush et al.	340/994	5,694,459	A	12/1997	Backaus et al.	379/427
5,014,206	A	5/1991	Scribner et al.	364/449	5,699,275	A	12/1997	Beasley et al.	364/514 R
5,021,780	A	6/1991	Fabiano et al.	340/994	5,712,908	A	1/1998	Brinkman et al.	379/119
5,021,789	A	6/1991	Fabiano et al.	364/436	5,715,307	A	2/1998	Zazzera	379/265
5,048,079	A	9/1991	Harrington et al.	379/112	5,719,771	A	2/1998	Buck et al.	364/443
5,068,656	A	11/1991	Sutherland	340/989	5,724,243	A	3/1998	Westerlage et al.	364/446
5,097,429	A	3/1992	Wood et al.	364/569	5,724,584	A	3/1998	Peters et al.	395/671
5,103,475	A	4/1992	Shuen	379/115	5,729,597	A	3/1998	Bhusri	379/115
5,113,185	A	5/1992	Ichikawa	340/995	5,732,074	A	3/1998	Spaur et al.	370/313
5,121,326	A	6/1992	Moroto et al.	364/449	5,734,981	A	3/1998	Kennedy, III et al.	455/445
5,122,959	A	6/1992	Nathanson et al.	364/436	5,736,940	A	* 4/1998	Burgener	340/994
5,131,020	A	7/1992	Liebesney et al.	379/59	5,739,774	A	4/1998	Olandesi	340/994
5,144,301	A	9/1992	Jackson et al.	340/994	5,742,672	A	4/1998	Burk	379/198
5,146,491	A	9/1992	Silver et al.	379/114	5,751,245	A	5/1998	Janky et al.	342/357
5,155,689	A	10/1992	Wortham	364/460	5,760,742	A	6/1998	Branch et al.	342/457
5,168,451	A	12/1992	Bolger	364/436	5,771,282	A	6/1998	Friedes	379/121
5,179,584	A	1/1993	Tsumura	379/114	5,771,455	A	6/1998	Kennedy, III et al.	455/456
5,218,629	A	6/1993	Dumond, Jr. et al.	379/59	5,774,825	A	6/1998	Reynolds	364/449.7
5,218,632	A	6/1993	Cool	379/126	5,781,156	A	7/1998	Krasner	342/357
5,223,844	A	6/1993	Mansell et al.	342/357	5,784,443	A	7/1998	Chapman et al.	379/119
5,243,529	A	9/1993	Kashiwazaki	364/449	5,793,853	A	8/1998	Sbisa	379/120
5,263,260	A	11/1993	Jones	340/994	5,796,365	A	8/1998	Lewis	342/357
5,271,484	A	12/1993	Bahjat et al.	187/29.1	5,799,073	A	8/1998	Fleischer, III et al.	379/113
5,299,132	A	3/1994	Wortham	364/460	5,799,263	A	8/1998	Culbertson	701/117
5,323,456	A	6/1994	Oprea	379/375	5,805,680	A	9/1998	Penzias	379/118
5,351,194	A	9/1994	Ross et al.	364/449	5,808,565	A	9/1998	Matta et al.	340/994
5,361,296	A	11/1994	Reyes et al.	379/96	RE35,920	E	10/1998	Sorden et al.	342/457
5,381,338	A	1/1995	Wysocki et al.	364/449	5,826,195	A	* 10/1998	Westerlage et al.	455/456.3
5,381,467	A	1/1995	Rosinski et al.	379/121	5,832,217	A	* 11/1998	Takahara et al.	709/200
5,394,332	A	2/1995	Kuwahara et al.	364/449	5,835,580	A	11/1998	Frazer	379/115
5,398,190	A	3/1995	Wortham	364/460	5,841,847	A	11/1998	Graham et al.	379/114
5,400,020	A	3/1995	Jones	340/994	5,845,227	A	* 12/1998	Peterson	701/209
5,420,794	A	5/1995	James	364/436	5,864,610	A	1/1999	Ronen	379/127
5,428,546	A	6/1995	Shah et al.	364/449	5,875,238	A	2/1999	Gliho et al.	379/116
5,432,841	A	7/1995	Rimer	379/59	5,881,138	A	3/1999	Kearns et al.	379/114
5,440,489	A	8/1995	Newman	364/426.05	5,910,979	A	6/1999	Goel et al.	379/120
5,444,444	A	8/1995	Ross	340/994	5,912,954	A	6/1999	Whited et al.	379/115
5,446,678	A	8/1995	Saltzstein et al.	364/514	5,915,006	A	6/1999	Jagadish et al.	379/127
5,448,479	A	9/1995	Kemner et al.	365/424.02	5,920,613	A	7/1999	Alcott et al.	379/114
5,461,374	A	10/1995	Lewiner et al.	340/994	5,922,040	A	* 7/1999	Prabhakaran	701/117
5,483,234	A	1/1996	Correel et al.	340/994	5,937,044	A	8/1999	Kim	379/121
5,483,454	A	1/1996	Lewiner et al.	364/443	5,943,320	A	8/1999	Weik et al.	370/259
5,493,295	A	2/1996	Lewiner et al.	340/994	5,943,406	A	8/1999	Leta et al.	379/120
5,493,694	A	2/1996	Vlcek et al.	455/53.1	5,943,657	A	8/1999	Freestone et al.	705/400
5,506,893	A	4/1996	Buscher et al.	379/114	5,945,919	A	8/1999	Trask	340/825.491
5,513,111	A	4/1996	Wortham	364/460	5,946,379	A	8/1999	Bhusri	379/115
5,515,421	A	5/1996	Sikand et al.	379/67	5,950,174	A	9/1999	Brendzel	705/34
5,519,621	A	5/1996	Wortham	364/460	5,952,659	A	9/1999	Welter, Jr.	379/16
5,526,401	A	6/1996	Roach, Jr. et al.	379/59	5,955,974	A	9/1999	Togawa	340/994
5,539,810	A	7/1996	Kennedy, III et al.	379/59	5,956,391	A	9/1999	Melen et al.	379/114
5,544,225	A	8/1996	Kennedy, III et al.	379/59	5,982,864	A	11/1999	Jagadish et al.	379/115
					5,987,103	A	11/1999	Jagadish et al.	379/114

5,987,377	A	11/1999	Westerlage et al.	701/204
5,991,377	A	11/1999	Malik	379/114
5,991,380	A	11/1999	Bruno et al.	379/115
5,991,381	A	11/1999	Bouanaka et al.	379/115
5,995,602	A	11/1999	Johnson et al.	379/116
6,006,106	A *	12/1999	Cook et al.	455/552.1
6,006,159	A	12/1999	Schmier et al.	701/200
6,094,149	A	7/2000	Wilson	340/904
6,097,317	A	8/2000	Lewiner et al.	340/994
6,111,538	A	8/2000	Schuchman et al.	342/357
6,124,810	A	9/2000	Segal et al.	340/994
6,134,501	A	10/2000	Oumi	701/209
6,137,425	A	10/2000	Oster et al.	340/994
6,144,301	A	11/2000	Frieden	340/572.8
6,178,378	B1	1/2001	Leibold	701/202
6,184,802	B1	2/2001	Lamb	340/994
6,191,708	B1	2/2001	Davidson	340/994
6,222,462	B1	4/2001	Hahn	340/904
6,240,362	B1	5/2001	Gaspard, II	701/209
6,253,146	B1	6/2001	Hanson et al.	701/202
6,253,148	B1	6/2001	Decaux et al.	701/204
6,278,936	B1	8/2001	Jones	701/201
6,313,760	B1	11/2001	Jones	340/994
6,317,060	B1	11/2001	Jones	340/994
6,331,825	B1 *	12/2001	Ladner et al.	340/988
6,360,101	B1	3/2002	Irvin	445/456
6,363,254	B1	3/2002	Jones et al.	455/456
6,363,323	B1	3/2002	Jones	701/213
6,374,176	B1	4/2002	Schmier et al.	701/200
6,400,956	B1	6/2002	Richton	455/456
6,411,807	B1 *	6/2002	Amin et al.	455/432.3
6,411,891	B1	6/2002	Jones	701/201
6,415,207	B1	7/2002	Jones	701/1
6,486,801	B1	11/2002	Jones	340/994
6,492,912	B1	12/2002	Jones	340/994
6,510,383	B1	1/2003	Jones	701/209
6,549,780	B2 *	4/2003	Schiff et al.	455/439
6,618,668	B1	9/2003	Laird	701/200
2002/0016171	A1	2/2002	Doganata et al.	455/456
2002/0069017	A1	6/2002	Schmier et al.	701/213
2002/0070882	A1	6/2002	Jones	340/994
2002/0082770	A1	6/2002	Jones	701/201
2002/0099500	A1	7/2002	Schmier et al.	701/200
2003/0093218	A1 *	5/2003	Jones	701/201
2003/0098802	A1	5/2003	Jones	340/994
2003/0146854	A1 *	8/2003	Jones	340/988
2003/0193412	A1 *	10/2003	Jones	340/994
2003/0193413	A1 *	10/2003	Jones	340/994
2003/0193414	A1 *	10/2003	Jones	340/994
2003/0195696	A1 *	10/2003	Jones	701/201
2003/0195698	A1 *	10/2003	Jones	340/994
2003/0233188	A1 *	12/2003	Jones	701/200

FOREIGN PATENT DOCUMENTS

EP	0805427	A1	11/1997	.....	G08G/1/123
FR	2 559 930		8/1985	.....	G08G/1/12
FR	2674355		9/1992		
GB	WO 93/13510	A1	7/1993	.....	G08G/1/123
JP	52066175		6/1977		
JP	63288400		11/1988	.....	G08G/1/12
JP	11034872	A	2/1999	.....	B61L/25/02
WO	WO 90/01236		2/1990	.....	H04M/1/54
WO	WO 93/13503		7/1993		
WO	WO 94/02922		2/1994	.....	G08G/1/123
WO	WO 94/27264		11/1994	.....	G08G/1/123
WO	WO 96/04634		2/1996	.....	G08G/5/22
WO	WO 96/16386		5/1996	.....	G08G/1/123
WO	WO 98/07128		2/1998	.....	G08G/1/123
WO	WO 98/08206		2/1998		
WO	WO 98/14926		4/1998	.....	G08G/1/123
WO	WO 98/40837		9/1998	.....	G06G/7/70

OTHER PUBLICATIONS

“Vehicle Location and Fleet Management Systems”, IEE Colloquium, Computing and Control Division, Jun. 8, 1993.

The 3rd International Conference on Vehicle Navigation & Information Systems (VNIS) Norway, Sep. 2–4, 1992, pp. 312–315.

Preiss, George; Jenson, Lillian; “The Satref and GPS Information Projects”, 1992 IEEE—3rd International Conference on Vehicle Navigation Information Systems, pp. 648–655.

“Vehicle Navigation & Information Systems Conference Proceedings” (P-253), Society of Automotive Engineers, Inc., Oct. 1991, pp. 789–796.

“1992 Compendium of Technical Paper”, Institute of Transportation Engineers—INRAD: A Demonstration of Two-Way Roadway to Vehicle Communication for use in Traffic Operations, Annual Meeting, Washington, D.C. pp. 214–218.

“Paving the Way for GPS in Vehicle Tracking”, Showcase World, Dec. 1992.

“Advanced Vehicle Monitoring and Communication Systems for Bus Transit”, Federal Transit Administration, Sep. 1991, Revised Mar. 1993.

Koncz, et al., “GIS-Based Transit Information Bolsters Travel Options”, GIS World, Jul. 1995, pp. 62–64.

Helleker, Jan, Real-Time Traveller Information—in everyone’s pocket?!—a pilot test using hand-portable GSM terminals, IEEE—IEE Vehicle Navigation & Information systems Conference, Ottawa, VNIS 1993, pp. 49–52.

Burgener, E.C., et al., “A Personal Transit Arrival Time Receiver”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. 54–55.

Peng, Zhong-Ren, “A Methodology for Design for a GIS-Based Automatic Transit Traveler Information System”, Computer, Environment and Urban Systems, vol. 21, No. 5, pp. 359–372, 1997.

Lessard, Robert, “The Use of Computer for Urban Transit Operations”, IEEE—IEE Vehicle Navigation & Information systems Conference, Ottawa, VNIS 1993, pp. 586–590.

Sommerville, Fraser, et al., “Reliable Information in Everyone’s Pocket—a Pilot Test”, IEEE, vol. 1927, Mar. 1994, pp. 425–428.

“PROMISE—Personal Mobile Traveller and Traffic Information Service—Specification of Promise Services, Ver. 7”, Telematics Application Programme A2, Transport, Jul. 1, 1996.

“PROMISE—Personal Mobile Traveller and Traffic Information Service—Generic Promise System Architecture, Ver. 2”, Telematics Application Programme A2, Transport, Sep. 10, 1996.

PROMISE—Personal Mobile Traveller and Traffic Information Service—Summary of Promise Public Relation Activities, Ver. 1, Telematics Application Programme A2, Transport, Feb. 12, 1999.

“PROMISE”—A Personal Mobile Traveller and Traffic Information Service—Abstract, The Institution of Electrical Engineers, 1997.

Sommerville, Fraser, et al., “The Promise of Increased Patronage”, The Institution of Electrical Engineers, 1993, pp. 3/1–3/4.

“Automatic Transit Location System”, Washington State Department of Transportation, Final Report, Feb. 1996.

“Advanced Traveler Aid Systems for Public Transportation”, Federal Transit Administration, Sep. 1994.

- “Advanced Vehicle Monitoring and Communication Systems for Bus Transit: Benefits and Economic Feasibility”, U.S. Department of Transportation, Urban Mass Transportation Administration, Sep. 1991.
- Leong, Robert, et al., “An Unconventional Approach to Automatic Vehicle Location and Control for Urban Transit”, IEEE 1989, pp. 219–223.
- “1994 Vehicle Navigation & Information Systems Conference Proceedings”, Yokohama, Japan, Aug. 31–Sep. 2, 1994, pp. 807–810.
- “Vehicle Navigation & Information Systems Conference Proceedings—P-253, Part 2”, Society of Automotive Engineers, Inc., Oct. 1991.
- Vehicle Navigation & Information Systems—Conference Record of Papers presented at the 3rd Vehicle Navigation & Information Systems Conference 1992., Reso Hotel, Osio Plaza., pp. 49–52.
- Nelson, J. Richard, “Experiences Gained in Implementing an Economical Universal Motorist System”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. 67–71.
- “The Cassiope/Eurobus Approach”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. 79–81.
- Kihl, Mary, “Advanced Vehicle Location System for Paratransit in Iowa”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. 381–384.
- Gault, Helen, et al., “Automatic Vehicle Location and Control at OC Transpo”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. 596–600.
- Vehicle navigation & Information System—Conference Record of Papers presented at the First Vehicle Navigation and Information Systems Conference (VNIS '89), Sep. 11–13, 1999, pp. 602–605.
- Heti, Gabriel, “Travelguide: Ontario's Route Guidance System Demonstration”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. A13–A18.
- Jeffery, D.J., et al., “Advanced Traveller Information Systems in the UK: Experience from the Pleiades and Romanse Projects”, IEEE—IEE Vehicle Navigation & Information Systems Conference, Ottawa, VNIS 1993, pp. 309–313.
- Sweeney, Lawrence, E., et al., “Travinfo: A Progress Report”, 1994 Vehicle Navigation & Information Systems Conference Proceedings, Yokohama, Japan, Aug. 31–Sep. 2, 1994, pp. 315–320.
- Shimamura, Yta, et al., “Combined Position Detection System for Pedestrian/Train Mode”, 1994 Vehicle Navigation & Information Systems Conference Proceedings, Yokohama, Japan, Aug. 31–Sep. 2, 1994, pp. 603–606.
- Zavoli, Walt, “Customer Location Services”, 1994 Vehicle Navigation & Information Systems Conference Proceedings, Yokohama, Japan, Aug. 31–Sep. 2, 1994, pp. 613–617.
- Tanaka, Yoshimi, et al., “Automatic Traffic Information Provision System Utilizing Facsimile and Telephone (Now Operating in Osaka), 1994 Vehicle Navigation & Information Systems Conference Proceedings”, Yokohama, Japan, Aug. 31–Sep. 2, 1994, pp. 627–632.
- McDonald, Mike, et al., “Romanse (Road Management System for Europe) Project”, 1994 Vehicle Navigation & Information Systems Conference Proceedings, Yokohama, Japan, Aug. 31–Sep. 2, 1994, pp. A-11–A-14.
- Scott III, Robert H., “Computer-Aided Dispatch”, 1998, pp. 46–50.
- Moore, Rodney J., “Hold the Phone!”, American Demographics, Ithaca, Jan./Feb. 1996, p. 68.
- Delong, Jr., Edgar S., “Making 911 even better”, Telephony, Dec. 14, 1987, pp. 60–63.
- Bruzek, Frank J., “Class Calling Service—A Customer Service Perspective”, Globecom '85 IEEE Global Telecommunications Conference, Dec. 2–5, 1985, vol. 1 of 3, pp. 11.4.1–11.4.4.
- Powell, R., et al., “Real Time Passenger Information System for the Romanse Project”, Colloouin Digest—IEE, Boston, Sep. 1993, pp. 9/1–9/3.
- Huber, Paul, “Public Transport Information Systems in Munich”, Intelligent Transport Systems World Congress '95—Second World Congress on Intelligent Transport Systems, Yokohama, Japan., Nov. 9–11. 1995, pp. 2362–2366.
- Ronez, Nicholas, et al., “GIS-Based Transit Information Bolsters Travel Options”, GIS World, vol. 6, part 7, Jun. 1995, pp. 62–64.
- Catling, Ian, et al., “TABASCO—Improving Transport Systems in Europe”, Pacific Rim TransTech Conference, Jul. 30–Aug. 2, 1995, 995 Vehicle Navigation & Information Systems Conference Proceedings, Washington State Convention and Trade Center, Seattle, Washington, USA, pp. 503–507.
- Dailey, D.J., “Demonstration of an Advance Public Transportation System in the Context of an IVHS Regional Architecture”, Proceedings of the First World Congress on Applications of Transport Telematics and Intelligent Vehicle-Highway Systems, Nov. 30–Dec. 3, 1994, Paris, France, pp. 3024–3031.
- Hubner, Paul, “Advance Public Transportation Information in Munich”, International Conference on Public Transport Electronic Systems, Conference Publication No. 42, Jun. 1996.
- Thompson, S.M., et al., “Exploiting Telecommunications to Delivery Real Time Transport Information”, Road Transport Information and Control, Apr. 21–23, 1998, pp. 59–63, Conference Publication No. 454 IEE 1998.
- Kaminitzer, David, et al., Driver Information Systems: Influencing your Route, IEE Seminar, Mar. 3, 1999, pp. 5/1–5/5.
- “Board Cites ATC in Spokane Near Miss”, Article in Aviation Week & Space Technology, Mar. 28, 1977, URL: <http://www.aviationnow.com>.
- Shifrin, Carole A., “Gate Assignment Expert System Reduces Delays at United's Hubs”, Article in Aviation Week & Space Technology, Jan. 25, 1988.
- “United Airlines applies TI's advance technologies to improve gate management at major airports”, Article in Business Wire, Inc., Nov. 19, 1987.
- Musich, Paula, “Airline Designs Software to move planes, people; Unite Airline's use of Covia Corp.'s Open Systems Manager, Connectivity Section”, Article in PC Week, Jun. 7, 1988, vol. 5, No. 23, p. C11.
- Stoll, Marilyn, “Systems help Airlines Manage Gate Schedules; Connectivity Supplement”, PC Week, Jul. 25, 1988, vol. 5, No. 30, p. C4..
- Reddy, Shyamala, “Traveling LAN: United Airlines Networks Its Terminals”, Article in The Local Area Network Magazine, Jan. 1990, vol. 5, No. 1, p. 108.

- Fisher, Sharon, "Networked Airport Systems help Travelers find their way; United Airlines subsidiary Covia Corp. devices integrated network.", Article in Software Magazine, Mar. 15, 1990, vol. 10, No. 4, p. 31.
- Henderson, Danna K., "Automation Takes aim at airports: the power of the networked PC is being unleashed on passenger handling and ramp activities worldwide.", Article in Air Transport World, Aug. 1990., vol., 27, No. 8, p. 52.
- "United Airlines introduces United Cargo Plug I, a new cargo computer system to serve freight forwarders", Business Wire, Oct. 22, 1990.
- Miller, Barry, "Special Report: Airline Equipment, Service Center", Aviation Week & Space Technology, Aug. 25, 1975, p. 51.
- Lyon, Mark W., "Cargo Net Debate Splits Industry", Journal of Commerce, Specials, p. 4, Jul 27, 1992.
- Davies, I.L., et al., "Electronics and the Aeroplane", Proceedings of the Institution of Electrical Engineers, Paper No. 7604, delivered before the IEE Electronics Division, Oct. 29, 1975.
- "Global Niche", Flight International, Sep. 26, 1990.
- "Real-Time Briefings", Aviation Week and Space Technology, Oct. 13, 1986.
- Flanagan, Mike, et al., "Amelia Earhart—Mystery Still Clouds Soaring Achievements", Chicago Tribune, Jul. 5, 1987, Final Edition, p. 5, Tempo Woman.
- "Official Airline Guides", Airports@, Nov. 20, 1990, Around Airports, vol. 7, No. 47, p. 485.
- "Automation System Gains Acceptance", Aviation Week & Space Technology, Nov. 23, 1992, vol. 137, No. 21, p. 97.
- Klass, Philip, "French Testing Ground-Derived MLS", Aviation & Space Technology, Avionics, p. 56, Dec. 15, 1975.
- "Forecast Realized for ATC System", Aviation & Space Technology, Mar. 17, 1975, Avionics, p. 168.
- Henderson, Danna, et al., "Ionworks: American West Automates New Phoenix Terminal Fully Integrated System to Handle Customer-Service Demands (America West Airlines Inc) (Includes Related Article Automation of passenger Service at Airports)", Airport Transport World, May 1, 1991, vol. 62.
- 3 Pages from a web site search under <http://mit.edu/afs/net.mit.edu/project/attic/usa-today/tech/37>, Jun. 12, 2003.
- "What's New in passenger Handling Equipment", Air Transport World, vol. 24, p. 62, Sep. 1987.
- "Senator Urges Acceleration of Navstar", Aviation & Space Technology, Avionics, p. 153, Oct. 3, 1983.
- "AFSC Broadens Joint Program Efforts", Aviation & Space Technology, System Acquisition, p. 83, Jul. 19, 1976.
- Herskovitz, Don, "GPS Insurance Antijamming the System; Brief Article", Journal of Electronic Defense, Dec. 1, 2000, No. 12, vol. 23, p. 41.
- Hambly, Richard M., et al., "Aircraft Traffic Management on the Airport Surface Using VHF Data Link for CNS", IEEE AES Systems Magazine, Mar. 1995, pp. 9-13.
- Berzins, G., et al., "INMARSAT: Worldwide Mobile Satellite Services on Seas, in Air and on Land", Space Technology, vol. 10, No. 4, pp. 231-237, 1990.
- Jenney, L.L., et al., "Man as Manager of Automated Resources in an Advanced Air Traffic System", J. Aircraft, vol. 12, No. 12, Dec. 1975.
- "Routing & Scheduling System improvements from RTSI; Routing Technology Software, Inc.; Product Announcement", Modern Brewery Age, vol. 43, No. 3, p. 11S, Jan. 20, 1992.
- Yanacek, Frank, "Hitching to the stars; satellites for shipment tracking", Research Information Transportation Journals, Combined, No. 6, vol. 29, p. 16.
- Stoll, Marilyn, "For on-the-road firms, hand-held terminals are pivotal. Connectivity", Research Information Transportation Journals, Combined, No. 34, vol. 5, p. C11.
- "IBM and Hunt to Market New Truck Tracker; International Business Machines", J.B. Hunt Transport Services; Brief Article, No. 210, vol. 101, p. 4.
- Klass, Philip J., "Two Carriers Plan Automatic Data Link", Aviation Week and Space Technology, Air Transport Section, May 23, 1977, p. 36.
- "Data Link Evolved Over Three Decades", Aviation Week and Space Technology, Air Transport Section, May 23, 1977, p. 36.
- Klass, Philip J., "American to Install Printers in Cockpits", Aviation Week and Space Technology, Avionics, Jul. 21, 1980, p. 56.
- Lefer, Henry, "Computers on a boon to E&M, but at a price", Air Transport World, vol. 23, p. 53, Feb., 1986.
- Donaghue, J.A., "Choice of Data Link Systems Expands as New Generation Hits the Market", Air Transport World, vol. 20, p. 58, Apr. 1983.
- Klass, Philip J., "Digital Network Could Improve Aircraft Links to Operations, ATC", Aviation Week and Space Technology, International Air Transport Section, vol. 131, No. 21, p. 121, Nov. 20, 1989.
- Board Cites ATC in Spokane Near Miss, Article in Aviation Week & Space Technology, Safety Section, Mar. 28, 1977, p. 59.
- "Vicorp Interactive Systems", Aviation Daily, Aviation Suppliers Section, vol. 309, No. 17, p. 147.
- Neumann, Dr. Horst, "ATC Concepts with Extensive Utilization of Automatic Data Processing", pp. 4-1 to 4-9; No Publication Information or Date Information Provided.
- Maxwell, Robert L., "Automation Possibilities in Air Traffic Control", pp. 561-563, No Publication Information or Date Information Available.
- "History of GPS", 3 pages, No Publication Information or Date Information Available.
- "Road Transport Research—Intelligent Vehicle High Systems—Review of Field Trials", prepared by An OECD Scientific Expert Group, pp. 1-101, Organisation for Economic Co-Operation and Development—No Date Information Available.
- Ratcliff, Robert, et al. Transportation Resources Information Processing System (TRIPS), pp. 109-113, No Publication Information or Date Information Available.
- Balke, Kevin., et al., Collection and Dissemination of Real-Time Travel Time and Incident Information with In-Vehicle Communication Technologies, pp. 77-82, No Publication Information or Date Information Available.
- Moriok, et al., "Advanced Vehicle Monitoring and communication Systems for Bus Transit—Benefits and Economic Feasibility", Final Report—U.S. Department of Transportation, Sep. 1991, Revised Mar. 1993, DOT-T-94-03.
- Brynielsson, Thore, Step by Step Development Towards Attractive Public Transport, Chalmers University of Technology, Goteborg, Sweden, Department of Transportation, 1976.

* cited by examiner

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