

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	SPORTVISION, INC.	06/07/2017
RECEIVING PARTY DATA		
Name:	SPORTSMEDIA TECHNOLOGY CORPORATION	
Street Address:	3511 UNIVERSITY DR	
City:	DURHAM	
State/Country:	NORTH CAROLINA	
Postal Code:	27707	
PROPERTY NUMBERS Total: 2		
Property Type	Number	
Patent Number:	10632359	
Application Number:	16857983	
CORRESPONDENCE DATA		
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<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>		
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NAME OF SUBMITTER:	JINAN GLASGOW GEORGE	
SIGNATURE:	/JiNan Glasgow George/	
DATE SIGNED:	05/28/2021	
Total Attachments: 16		
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ASSIGNMENT OF RIGHTS: PATENTS AND PATENT APPLICATIONS

Sportvision, Inc. ("ASSIGNOR"), whose mailing address is 6657 Kaiser Drive, Fremont, CA, 94555, is owner of the patents and patent applications listed in Appendix A (the "PATENTS AND PATENT APPLICATIONS").

Sportsmedia Technology Corporation ("ASSIGNEE"), whose mailing address is 3511 University Dr., Durham, NC 27707 US, desires to acquire all rights and interests in and to the PATENTS AND PATENT APPLICATIONS and the Letters Patents (and any reissues or extensions) that may be granted.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR hereby assigns, sales and transfers, unto Assignee, the full and exclusive right, title, and interest in and to (a) the above-identified PATENTS AND PATENT APPLICATIONS, (b) all Letters Patents which may issue from said PATENTS AND PATENT APPLICATIONS in the United States and countries foreign thereto, (c) all divisions, continuations in whole or part, reissues, substitute applications, foreign applications, and all foreign patents that may issue therefrom, and extensions of said PATENTS AND PATENT APPLICATIONS and Letters Patents, and (d) the right to claim for any of said PATENTS AND PATENT APPLICATIONS the full benefits and priority right under the International Convention and any other international agreement to which the United States adheres; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

ASSIGNOR HEREBY AGREES: (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting the PATENTS AND PATENT APPLICATIONS, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuing, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for the PATENTS AND PATENT APPLICATIONS, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of NEO IP, do not personally represent ASSIGNOR or ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

ASSIGNOR

Marvin S. White

Chief Technology Officer

Sportvision, Inc.

Signature: 

Date: __7 June 2017__

Appendix A

Country	Application Number	Patent/ Publication Number	Filing Date	Title	Inventors
USA	08/498009	5564698	6/30/1995	Electromagnetic transmitting hockey puck	S. Honey; R. Cavallaro; D. Hill; F. Heinzmann; A. Phillips; H. Guthart; A. Burns; C. Rino; P. Evans
USA	08/585145	5912700	1/10/1996	System for enhancing the television presentation of an object at a sporting event	S. Honey; R. Cavallaro; D. Hill; A. Setos; J. Gepner; T. Heidmann; P. Olsen; F. Heinzmann; A. Phillips; H. Guthart; A. Burns; C. Rino; P. Evans
USA	08/735020	5917553	10/22/1996	Method and apparatus for enhancing the broadcast of a live event	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill
USA	08/785588	6252632	1/17/1997	System for enhancing a video presentation	R. Cavallaro
USA	08/786108	5862517	1/17/1997	System for re-registering a sensor during a live event	S. Honey; R. Cavallaro; T. Heidmann; P. Olsen; J. Gloudemans
USA	08/785205	5953077	1/17/1997	System for displaying an object that is not visible to a camera	S. Honey; R. Cavallaro; T. O'Brien; T. Heidmann; P. Olsen; J. Gloudemans
USA	09/041238	6133946	3/11/1998	System for determining the position of an object	R. Cavallaro; J. Gepner; J. Gloudemans; S. Honey; W. Squadron; M. White

USA	09/160534	6266100	9/24/1998	System for enhancing a video presentation of a live event	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. J. O'Brien; M. White
USA	60/099,262		09/04/1998	System for enhancing a video presentation of a live event	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. J. O'Brien; M. White
USA	09/160428	6229550	9/24/1998	Blending a graphic	J. Gloudemans; R. Cavallaro; S. Honey; M. White
USA	09/208903	6154250	12/10/1998	System for enhancing the television presentation of an object at a sporting event	S. Honey; R. Cavallaro; D. Hill; A. Setos; J. Gepner; T. Heidmann; P. Olsen; F. Heinzmann; A. Phillips; H. Guthart; A. Burns; C. Rino; P. Evans
USA	09/264138	6141060	3/5/1999	Method and apparatus for adding a graphic indication of a first down to a live video of a football game	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill
USA	09/283729	6304665	4/1/1999	System for determining the end of a path for a moving object	R. Cavallaro; J. Gloudemans; S. Honey; T. O'Brien; A. Phillips; W. Squadron; M. White;
USA	09/289166	6292130	4/9/1999	System for determining the speed and/or timing of an object	R. Cavallaro; F. Heinzmann; S. Honey; K. Milnes; M. White
USA	09/293378	6466275	4/16/1999	Enhancing a video of an event at a remote location using data acquired at the event	S. Honey; R. Cavallaro; J. Gepner; J. Gloudemans; M. White
USA	09/344290	61673556	6/30/1999	System for measuring a jump	W. Squadron; R. Cavallaro; S. Honey; N. Kalayjian; T.

USA	09/425992	7075556	10/21/1999	Telestrator system	O'Brien; M. White K. Meier; W. Hsiao; J. Gloudemans; M. White; R. Cavallaro; S. Honey
USA	09/444790	6456232	11/22/1999	System for determining information about a golf club and/or a golf ball	K. Milnes; M. White; R. Cavallaro; S. Honey; F. Heinzmann S. Honey; R. Cavallaro; M. White; T. O'Brien; M. Lazar; S. Neubarth; A. Phillips; K. Milnes S. Honey; R. Cavallaro; M. White; T. O'Brien; M. Lazar; S. Neubarth; A. Phillips; K. Milnes
USA	09/472635	6965397	12/27/1999	Measuring camera attitude	M. White; S. Honey; W. Hsiao; J. Gloudemans; K. Meier; J. McGuffin; R. Cavallaro J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. O'Brien; M. White S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill R. Cavallaro; S. Honey; K. Milnes; M. White T. Ford; P. Fenton; J. McGuffin; S. Honey R. Cavallaro; J. Gloudemans; M. Lazar; K. Meier; A.
USA	60/166725		11/22/1999	Measuring camera attitude	
USA	09/767777	6909438	1/23/2001	Video compositor	
USA	09/771238	6597406	1/26/2001	System for enhancing a video presentation of a live event	
USA	09/844524	7154540	4/27/2001	System for enhancing video	
USA	09/888217	6657584	6/22/2001	Locating an object using GPS with additional data	
USA	09/888195	6728637	6/22/2001	Track model constraint for GPS position	
USA	09/928165	6864886	8/10/2001	Enhancing video using a virtual surface	

USA	09/929598	7221794	08/13/2001	Foreground detection	Mozes; R. Peon; E. Steinberg
USA	11/691758	7894669	03/27/2007	Foreground detection	J. Gloudemans; W. Hsiao
USA	60/256420		12/18/2000	Foreground detection	J. Gloudemans; W. Hsiao
USA	10/179538	6744403	6/25/2002	GPS based tracking system	K. Milnes; S. Honey; J. McGuffin; M. Lazar; R. Peon; J. Gloudemans
USA	60/295310		06/01/2001	Track model constraint enhancement for GPS receiver	T. Ford; K. Milnes; P. Fenton; S. Honey
USA	60/233360		09/18/2000	System for tracking automobiles	R. Cavallaro; S. Honey; K. Milnes; M. White
USA	60/213684		06/23/2000	Locating an object using GPS with additional data	R. Cavallaro; S. Honey; K. Milnes; M. White
USA	09/888208		06/22/2001	GPS based tracking system	K. Milnes; S. Honey; J. McGuffin; M. Lazatr; R. Peon; J. Gloudemans
USA	10/331117	7341530	12/27/2002	Virtual strike zone	R. Cavallaro; E. Steinberg; A. Gueziec; A. Mozes
USA	60/346990		01/09/2002	Virtual strike zone	R. Cavallaro; E. Steinberg; A. Gueziec; A. Mozes
USA	11/172340	7680301	6/30/2005	Measurements using a single image	R. Pendleton; M.White
USA	11/297036	7492363	12/08/2005	Telestrator system	K. Meier; W. Hsiao; J. Gloudemans; M. White; R. Cavallaro; S. Honey
USA	11/467467	8456526	8/25/2006	Video effect using movement within an image	J. Gloudemans; W. Hsiao; J. LaCroix; R. Cavallaro; M. White

USA	11/670394	8016653	02/01/2007	Three dimensional virtual rendering of a live event	R. Pendleton; K. Milnes; M. White
USA	11/688149	8335345	03/19/2007	Tracking an object with multiple asynchronous cameras	M. White; A. Alt
USA	60/893082		03/05/2007	Tracking an object with multiple asynchronous cameras	M. White; A. Alt
USA	11/960586	8077981	12/19/2007	Providing virtual inserts using image tracking with camera and position sensors	V. Elangovan; M. White; R. Cavallaro; K. Milnes
USA	60/952519		07/27/2007	Providing virtual inserts using image tracking with camera and position sensors	V. Elangovan; M. White; R. Cavallaro; K. Milnes
USA	11/960527	8558883	12/19/2007	Providing graphics in images depicting aerodynamic flows and forces	R. Cavallaro; A. Alt; V. Elangovan; J. McGuffin; T. Heidmann; R. Halper
USA	60/952519		07/27/2007	PROVIDING VIRTUAL INSERTS USING IMAGE TRACKING WITH CAMERA AND POSITION SENSORS	W. Elangovan; M. White; R. Cavallaro; K. Milnes; J. McGuffin; A. Alt; T. Heidmann
USA	11/960565	8401304	12/19/2007	Detecting an object in an image using edge detection and morphological processing	V. Elangovan; R. Cavallaro
USA	11/960571	8385658	12/19/2007	Detecting an object in an image using multiple templates	V. Elangovan; M. White; R. Cavallaro; K. Milnes
USA	11/960577	8456527	12/19/2007	Detecting an object in an image using templates indexed to location or camera sensors	V. Elangovan; M. White; R. Cavallaro; K. Milnes; T. Heidmann

USA	11/960600	8253799	12/19/2007	Detecting an object in an image using camera registration data indexed to location or camera sensors	V Elangovan; Kenneth A. Milnes; T. Heidmann
USA	11/960606	8457392	12/19/2007	Identifying an object in an image using color profiles	V. Elangovan; M. White; R. Cavallaro; K. Milnes
USA	12/121650	8154633	5/15/2008	Line removal and object detection in an image	J. Gloudemans; W. Hsiao; F. Yue
USA	60/988725		11/16/2007	CHANGING THE PERSPECTIVE OF A CAMERA IN AN IMAGE	W. Hsiao; J. Gloudemans; M. White; R. Cavallaro; F. Yue
USA	12/121660	8441476	5/15/2008	Image repair interface for providing virtual viewpoints	J. Gloudemans; W. Hsiao; F. Yue
USA	12/121696	8451265	5/15/2008	Virtual viewpoint animation	J. Gloudemans; W. Hsiao; F. Yue
USA	12/121699	8049750	5/15/2008	Fading techniques for virtual viewpoint animations	J. Gloudemans; F. Yue
USA	12/121701	9041722	05/15/2008	Updating background texture for virtual viewpoint animations	J. Gloudemans; W. Hsiao; F. Yue
USA	12/121655	8073190	5/15/2008	3D textured objects for virtual viewpoint animations	J. Gloudemans; W. Hsiao
USA	12/121665	8466913	5/15/2008	User interface for accessing virtual viewpoint animations	J. Gloudemans; F. Yue
USA	12/359092	7750901	1/23/2009	Telestrator system	K. Meier; W. Hsiao; J. Gloudemans; M. White; R. Cavallaro; S. Honey
USA	12/546299	7822229	08/24/2009	Measurements using a single image	R. Pendleton; M. White
USA	12/791090	7928976	06/01/2010	Telestrator system	K. Meier; W. Hsiao; J. Gloudemans; M.

USA	12/906012	8884741	10/15/2010	Tracking system	White; R. Cavallaro; S. Honey R. Cavallaro; J. McGuffin; J. Borton
USA	12/906029	8786415	10/15/2010	Tracking system using proximity and/or presence	R. Cavallaro; J. McGuffin; J. Borton
USA	12/976766	8659663	12/22/2010	Video tracking of baseball players to determine the start and end of a half- inning	V. Elangovan; M. Fecho; T. Heidmann
USA	12/976758	9007463	12/22/2010	Video tracking of baseball players which identifies merged participants based on participant roles	V. Elangovan; M. Fecho; T. Heidmann
USA	13/351554	8977585	01/17/2012	Simulation system	R. Cavallaro; J. Borton; G. Russell K. Milnes; S. Honey; J.
USA	13/551997	9215383	07/18/2012	System for enhancing video from a mobile camera	McGuffin; R. Cavallaro; J. Borton; R. Pendelton
USA	13/662782	8705799	10/29/2012	Tracking an object with multiple asynchronous cameras	M. White; A. Alt
USA	14/151440	9473748	1/9/2014	Video Tracking Of Baseball Players To Determine The End Of A Half-Inning	V. Elangovan; M. Fecho; T. Heidmann
USA	14/506969	9625321	10/6/2014	TRACKING SYSTEM	R. Cavallaro; J. McGuffin; J. Borton
USA	14/677759	2016/0292865	04/02/2015	Automated framing and selective discard of parts of high resolution videos of large event space	J. Floor; P. Weemaes

USA	14/687791	2016/0307335	04/15/2015	Determining X, Y, Z, T biomechanics of moving actor with multiple cameras	M. Perry; J. Spivak; R. Zander; G. Goldbeck; J. Painter
USA	15/072,176		03/16/2016	Tracking of handheld sporting implements using computer vision	J. Painter
USA	15/157,222		05/17/2016	Automated or Assisted Umpiring of Baseball Game Using Computer Vision	J. Spivak; G. Goldbeck; R. Zander; E. Byrnes; T. Chen; R. Amyx; G. Thompson; G. Turner
USA	15/293,106		10/13/2016	Estimating Tracking Sensor Parametrization using known surface constraints	R. Labbe; D. Ramakrishnan; L. Sridharan; R. Cavallaro; M. White
USA	15/266541		09/15/2016	MULTI VIEW CAMERA REGISTRATION	K. Mason; R. Cavallaro; J. Doeden
USA	15/260122		09/08/2016	MOLDED HOCKEY PUCK WITH ELECTRONIC SIGNAL TRANSMITTER CORE	M. White; P. Shon; R. Labbe
USA	15/489333		04/17/2017	TRACKING SYSTEM	R. Cavallaro; J. McGuffin; J. Borton
USA	61/515,836		08/05/2011	SYSTEM FOR ENHANCING VIDEO FROM A MOBILE CAMERA	K. Milnes; S. Honey; J. McGuffin; R. Cavallaro; J. Burton; R. Pendleton
USA	60/180,436		02/04/2001	Video compositor	M. White; S. Honey
USA	60/224,504		08/10/2000	Telestrator system using virtual surface	R. Cavallaro; S. Honey; K. Meier; M. White
USA	61/307,578		02/24/2010	Tracking system	R. Cavallaro; J. Borton; J. McGuffin

USA	61/450,797		03/09/2011	SIMULATION SYSTEM	R. Cavallaro; J. Borton
EU	EP2215604	WO 2009/064,902	11/13/2006	Updating background texture for virtual viewpoint animations	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill
EU	12754115.9	2740261	07/30/2012	System for enhancing video from a mobile camera	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill
EU	11706442.8	2539030	02/22/2011	Tracking system using proximity and/or presence	R. Cavallaro; J. McGuffin; J. Borton
EU	98908439.0	1010129	01/15/1998	System for re-registering a sensor during a live event	S. Honey; R. Cavallaro; T. Heidmann; P. Olsen; J. Gloudemans
EU	98902437.0	953255	01/15/1998	A system for displaying an object that is not visible to a camera	S. Honey; R. Cavallaro; T. Heidmann; P. Olsen; J. Gloudemans
GB	97943458.00	935886	9/23/1997	Method and apparatus for enhancing the broadcast of a live event	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill
GB	98908439.00	1010129	1/15/1998	System for re-registering a sensor during a live event	S. Honey; R. Cavallaro; T. Heidmann; P. Olsen; J. Gloudemans
GB	99945342.6	1110382	08/31/1999	System for enhancing a video presentation of a live event	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. O'Brien; M. White
GB	1952195.4	1305898	06/22/2001	GPS based tracking system	R. Cavallaro; S. Honey; K. Milnes; M. White
FR	97943458.00	935886	9/23/1997	Method and apparatus for enhancing the broadcast of a live	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill

				event	
FR	99945342.6	1110382	08/31/1999	System for enhancing a video presentation of a live event	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. O'Brien; M. White
FR	1952195.4	1305898	06/22/2001	GPS based tracking system	R. Cavallaro; S. Honey; K. Milnes; M. White
EU	98908439.00	1010129	1/15/1998	System for re-registering a sensor during a live event	S. Honey; R. Cavallaro; T. Heidmann; P. Olsen; J. Gloudemans
EU	98902437.00	953255	1/15/1998	System for displaying an object that is not visible to a camera	S. Honey; R. Cavallaro; T. O'Brien; T. Heidmann; P. Olsen; J. Gloudemans
EU	99945342.6	1110382	08/31/1999	System for enhancing a video presentation of a live event	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. O'Brien; M. White
EU	1952195.4	1305898	06/22/2001	GPS based tracking system	R. Cavallaro; S. Honey; K. Milnes; M. White
EU	8850327.1	2215598	11/13/2006	Line removal and object detection in an image	J. Gloudemans; W. Hsiao; F. Yue
EU	8848885.3	2215604	11/13/2006	Updating background texture for virtual viewpoint animations	J. Gloudemans; W. Hsiao; F. Yue
EU	11706441	2539029	02/22/2011	Tracking system	R. Cavallaro; J. McGuffin; J. Borton
EU	11706442.8	2529030	02/22/2011	Tracking system	R. Cavallaro; J. McGuffin; J. Borton
DE	602011027422.8	2539029	02/22/2011	Tracking system	R. Cavallaro; J. McGuffin; J. Borton

FR	11706441.0	2539029	02/22/2011	Tracking system	R. Cavallaro; J. McGuffin; J. Borton
GB	11706441.0	2539029	02/22/2011	Tracking system	R. Cavallaro; J. McGuffin; J. Borton
EU	12754115.9	2740261	07/30/2012	System for enhancing video from a mobile camera	K. Milnes; S. Honey; J. McGuffin; R. Cavallaro; J. Borton; R. Pendelton
ES	1952195.4	1305898	06/22/2001	GPS based tracking system	R. Cavallaro; S. Honey; K. Milnes; M. White
DE	97943458.00	69728687.8-09	9/23/1997	Method and apparatus for enhancing the broadcast of a live event	S. Honey; R. Cavallaro; J. Gepner; E. Goren; D. Hill
DE	953255.00	69840769.5-08	1/15/1998	System for displaying an object that is not visible to a camera	S. Honey; R. Cavallaro; T. O'Brien; T. Heidmann; P. Olsen; J. Gloudemans
DE	99945342.6	69930531	08/31/1999	System for enhancing a video presentation of a live event	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. O'Brien; M. White
DE	60143357.2	1305898	06/22/2001	GPS based tracking system	R. Cavallaro; S. Honey; K. Milnes; M. White
CA	2413691	2413691	06/22/2001	Track model constraint for GPS position	R. Cavallaro; S. Honey; K. Milnes; M. White
PCT	PCT/US99/07329	WO 1999/51990	04/02/1999	SYSTEM FOR DETERMINING THE END OF A PATH FOR A MOVING OBJECT	R. Cavallaro; J. Gloudemans; S. Honey; T. O'Brien; A. Phillips; W. Squadron; M. White;
PCT	PCT/US99/19896	WO 2000/14959	08/31/1999	SYSTEM FOR ENHANCING A VIDEO PRESENTATION OF A LIVE EVENT	J. Gloudemans; R. Cavallaro; J. Gepner; S. Honey; W. Hsiao; T. J. O'Brien; M. White

PCT	PCT/US00/08455	WO 2000/64190	03/30/2000	ENHANCING A VIDEO OF AN EVENT AT A REMOTE LOCATION USING DATA ACQUIRED AT THE EVENT	S. Honey; R.Cavallaro; J. Gepner; J. Gloudemans; M. White
PCT	PCT/US00/08355	WO 2000/62090	03/30/2000	SYSTEM FOR DETERMINING THE SPEED AND/OR TIMING OF AN OBJECT	R. Cavallaro; F. Heinzmann; S. Honey; K. Milnes; M. White
PCT	PCT/US00/41280	WO 2000/41280	04/26/2000	TELESTRATOR SYSTEM	K. Meier; W. Hsiao; J. Gloudemans; M. White; R. Cavallaro; S. Honey
PCT	PCT/US00/42208	WO 2000/42208	11/16/2000	SYSTEM FOR DETERMINING INFORMATION ABOUT A GOLF CLUB AND/OR A GOLF BALL	K. Milnes; M. White; R. Cavallaro; S. Honey; F. Heinzmann
PCT	PCT/US01/41114	WO 2001/41114	06/22/2001	LOCATING AN OBJECT USING GPS WITH ADDITIONAL DATA	R. Cavallaro; S. Honey; K. Milnes; M. White
PCT	PCT/US08/71161	WO 2009/018135	07/25/2008	PROVIDING VIRTUAL INSERTS USING IMAGE TRACKING WITH CAMERA AND POSITION SENSORS	V. Elangovan; M. White; R. Cavallaro; K. Milnes
PCT	PCT/US08/83415	WO 2009/064893	11/13/2008	LINE REMOVAL AND OBJECT DETECTION IN AN IMAGE	J. Gloudemans; W. Hsiao; F. Yue
PCT	PCT/US08/71165	WO 2009/018138	07/25/2008	DETECTING AN OBJECT IN AN IMAGE USING EDGE DETECTION AND MORPHOLOGICAL PROCESSING	V. Elangovan; R. Cavallaro
PCT	PCT/US08/71167	WO 2009/018139	07/25/2008	DETECTING AN OBJECT IN AN IMAGE USING TEMPLATES INDEXED TO LOCATION OR CAMERA SENSORS	V. Elangovan; M. White; R. Cavallaro; K. Milnes; T. Heidmann

PCT	PCT/US08/71156	WO 2009/018131	07/25/2008	DETECTING AN OBJECT IN AN IMAGE USING CAMERA REGISTRATION DATA INDEXED TO LOCATION OR CAMERA SENSORS FADING	V Elangovan; Kenneth A. Milnes; T. Heidmann
PCT	PCT/US08/83417	WO 2009/064895	11/13/2008	TECHNIQUES FOR VIRTUAL VIEWPOINT ANIMATIONS UPDATING BACKGROUND TEXTURE FOR VIRTUAL	
PCT	PCT/US08/83425	WO 2009/064902	11/13/2008	VIEWPOINT ANTIMATIONS 3D TEXTURED OBJECTS FOR VIRTUAL	
PCT	PCT/US08/83427	WO 2009/064904	11/13/2008	VIEWPOINT ANIMATIONS	J. Gloudemans; W. Hsiao
PCT	PCT/US11/25771	WO 2011/106330	02/22/2011	TRACKING SYSTEM	R. Cavallaro; J. McGuffin; J. Borton K. Milnes; S. Honey; J. McGuffin; R. Cavallaro; J. Borton; R. Pendelton W. Squadron; R. Cavallaro; S. Honey; N Kalayjian; T. O'Brien; M.White
PCT	PCT/US12/48872	WO 2013/022642	07/30/2012	SYSTEM FOR ENHANCING VIDEO FROM A MOBILE CAMERA	
PCT	PCT/US99/14848	WO 1999/14848	06/30/1999	SYSTEM FOR MEASURING A JUMP	
PCT	PCT/US96/11122	WO 1997/02699	06/28/1996	A SYSTEM FOR ENHANCING THE TELEVISION PRESENTATION OF AN OBJECT AT A SPORTING EVENT	
PCT	PCT/US98/01204	WO 1998/32094	01/15/1998	A SYSTEM FOR RE- REGISTERING A SENSOR DURING A LIVE EVENT	

PCT	PCT/US98/00330	WO 1998/32287	01/15/1998	A SYSTEM FOR DISPLAYING AN OBJECT THAT IS NOT VISIBLE TO A CAMERA DETERMINING X,Y,Z,T	S. Honey; R. Cavallaro; T. Heidmann; P. Olsen; J. Gloudemans
PCT	PCT/US16/26785	WO 2016/168085	04/08/2016	BIOMECHANICS OF MOVING ACTOR WITH MULTIPLE CAMERAS AUTOMATED FRAMING AND SELECTIVE DISCARD OF PARTS OF HIGH RESOLUTION VIDEOS OF LARGE EVENT SPACE	
PCT	PCT/US16/25109	WO 2016/161047	03/31/2016		J. Floor; P. Weemaes
PCT	PCT/US98/27377	WO 1999/35503	12/23/1998	SYSTEM FOR DETERMINING THE POSITION OF AN OBJECT	R. Cavallaro; J. Gepner; J. Gloudemans; S. Honey; W. Squadron; M. White
PCT	PCT/US11/25771	WO 2011/106330	02/22/2011	Tracking System	R. Cavallaro; J. McGuffin; J. Borton